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Research Article

Impact of Cognitive Behaviour Therapy for Psychosis on Quality of Life in Schizophrenia - Recent Findings

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Abstract

Background: With its complex etiology and presenting symptoms, schizophrenia continues to challenge clinicians and researchers alike in finding the most effective approach to alleviating symptoms and enhancing the quality of life of those affected by it. Here we explore the impact Cognitive Behavioral Therapy for psychosis (CBTp) has on the quality of life of individuals with schizophrenia, as reported in recent randomized controlled trials. **Methods:** We systematically searched four databases: Web of Science, PubMed, Embase and Google Scholar. The Boolean operator "AND" was used between each keyword, and a 10-year limit was applied. The search yielded 244 articles depicting a variety of studies on the effectiveness of CBT and related therapeutic interventions. To be included in our scoping review, each study had to fit the following set criteria: CBT intervention, the population represented by individuals with schizophrenia, the study had to be a Randomized Controlled Trial (RCT). **Results:** Seven studies met the criteria for this scoping review. Improvement in quality of life because of a CBT intervention was found in four of these studies; no improvement was seen in two, while one of the studies did not discuss their quality of life assessment results. **Conclusions:** Only a small number of RCTs (7) reporting on the quality of life changes resulting from a CBT intervention could be identified in the last ten years, and were included in this review. The findings are mixed, with four studies reporting quality of life improvement post-treatment and two studies at follow-up, while three reported no improvements or did not explicitly discuss it. Although quality of life is considerably affected in individuals with schizophrenia, rigorous studies assessing the effectiveness of CBT interventions tend to focus on clinical symptoms and cognitive deficits.

Keywords: CBT; Quality of life; Schizophrenia; Psychosis; CBT for psychosis

List of Abbreviations: CDSS: Calgary Depression Scale for Schizophrenia; BAI: Beck Anxiety Inventory; BAVQ-R: Beliefs About Voices Questionnaire-Revised; BDI-II: Beck Depression Inventory; CAPS-S: Clinician-Administered Posttraumatic Stress Disorder Scale; GAF: Global Assessment of Functioning Scale; MSQoL-R: the Modular System for Quality of Life; QALY: quality-adjusted life years; QoL: Quality of life; Q-LES-Q-SF: Quality of Life Enjoyment and Satisfaction Questionnaire: Short Form; PANSS: Positive and Negative Syndrome Scale; PSYRATS: Psychotic Symptoms Rating Scales; PTCI: Posttraumatic Cognitions Inventory; SZ: schizophrenia; VRT: Virtual Reality assisted Therapy.

Introduction

The currently accepted approach in the treatment of schizophrenia involves pharmacotherapy as well as adjunctive psychosocial interventions. Schizophrenia is a complex, debilitating mental disorder, and its implications concern the individual,

family and society as a whole. It continues to challenge clinicians and researchers alike in finding the most effective approach to alleviating symptoms and enhancing the quality of life of those affected. Considering the cognitive deficits the disorder leads to, Cognitive therapy was one of the first forms of psychotherapy used for individuals with schizophrenia. Aaron T Beck - the father of CBT (Cognitive Behavioural Therapy), reported its successful use in the early 1950s [1]. The core assumption of this approach has been that identifying and modifying the dysfunctional beliefs of individuals with psychosis may lead to increased engagement with the therapeutic process and constructive social activity. Numerous randomized controlled trials have examined CBT's efficacy for psychosis (CBTp) since then. Usually focusing on improving the core symptoms of schizophrenia, these trials rarely assess the quality of life. When they do, it is always seen in the secondary outcomes category, almost as an afterthought. Defined as a person's sense of well-being and satisfaction with their life circumstances as well as his/her health status and access to resources and opportunities [2], quality of life has been deemed as a crucial component in the recovery process in psychosis [3]. Assessed through various tools over the years and covering different dimensions of the concept, all measures appear to have transitioned to a more subjective appraisal of one's life in recent decades, mirroring the person-centred approach the health care adopted.

A recent systematic review [4] on the role of CBT in the management of psychosis concludes that CBT, in addition to standard care in the management of psychotic symptoms, leads to improved quality of life. CBT was found to decrease psychotic and affective symptoms and to improve functioning, particularly effective in preventing first-episode psychosis in high-risk individuals. CBT was also found to be effective in Clozapine resistant schizophrenia in their review, as patients who received CBT had fewer hospitalizations than those who received treatment as usual. Same authors summarized the challenges encountered in CBT delivery: severe intensity of psychotic symptoms and lack of insight; large caseloads and lack of supervision for clinicians to use CBT; lack of peer and family support for patients, among other factors. They also emphasize that "CBTp is complex, and its effective administration depends on the interaction between therapist and patient. Hence, factors such as readiness and willingness of the patient, nature of symptoms, and awareness level of distress on the part of the patient can influence the overall result" [4].

An equally recent meta-analysis, however, pinpoints a different set of findings regarding quality of life assessed in CBTp studies, finding no evidence that CBTp increases the quality of life post-intervention. Covering a number of 36 RCTs investigating the effectiveness of CBTp for functioning, distress, and quality of life in individuals with schizophrenia, Law and his team (2018) found that although there was a small benefit of CBT for reducing distress, this became no significant when adjusted for possible publication bias. Considering these intriguingly conflicting findings, we are exploring here the most recent findings about quality of life as assessed in RCTs of CBTp for schizophrenia done in the last ten years.

Methods

Due to limited RCTs on CBT in schizophrenia, our search used the results from 4 databases. Articles that reported on an RCT on patients with schizophrenia and assessed the quality of life as an outcome measure were included in this review. All studies had to include a control group of any type - TAU (Treatment As Usual), waitlist, or other intervention designed to control for the non-specific effects of CBT.

he keywords "schizophrenia," "CBT OR Cognitive Behavioural Therapy," and "quality of life" were searched for on all databases (Web of Science, PubMed, Embase and Google Scholar). The Boolean operator "AND" was used between each of the keywords. The 10 years/ 2013-2023 filter was applied where the database allowed.

The search on Web of Science returned 44 articles, PubMed returned 49 articles, Embase returned 106 articles, and Google Scholar 5 articles. After duplicate records were removed and titles and abstracts were reviewed for eligibility, there were 66 articles remaining that were assessed for the final review. Of those studies, 7 met the criteria for the present scoping review (Figure 1, PRISMA Flow Diagram). Articles were excluded if not reporting on an RCT if not assessing the quality of life, or CBT was not included in the interventions.

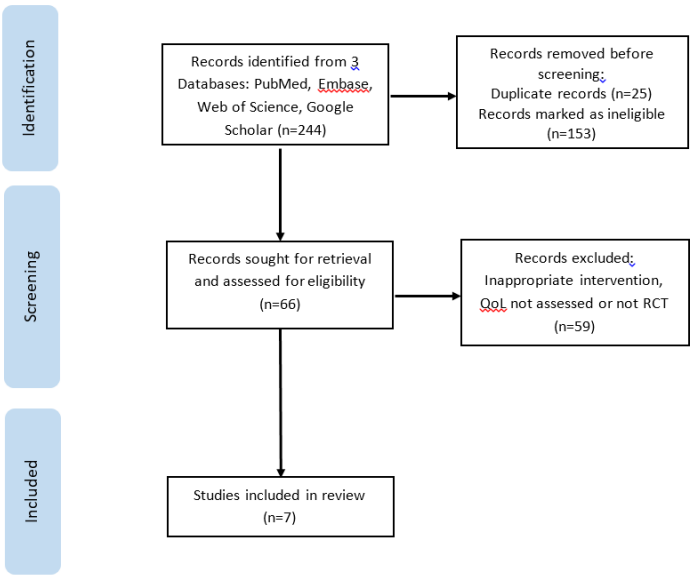

Figure 1: PRISMA Flow Diagram.

Results

Improvement in quality of life because of a CBT intervention was found in several of these studies: [5-,8]. On the other hand, no improvement was found in [9,10], while quality of life assessment results were not discussed by [11].

The quality of life measures, all self-rated scales, varied, and in one case [8], were not specified. The most used measure was the E5-D5-5L [12], followed by QLS (Heinrichs et al., 1984) [13], S-QoL [14], Q-LES-Q-SF, MSQoL-R [15] and QLAY. One study [5] used the WEMWS - a measure of well-being along with the E5-D5-5L.

The primary outcome measures were predominantly aimed at capturing clinical improvements - like the PANSS [16], PSYRATS [17], CAPS-S [18], BDI-II [19], BAI [20], CGI [21], CDSS [22], GAF [23], among others.

The study population mainly consisted of adult participants with schizophrenia and schizophrenia spectrum disorders [5,6,8,9,10,11]. but also adolescents with early onset psychosis - with a current diagnosis of schizophrenia, schizophreniform, schizoaffective or delusional disorder [7]. Sample sizes of the intervention groups ranged from N=13 in Muller et al., (2020) [7] to N=209 in Morrison et al., (2018) [11].

The protocol consisted of a CBT intervention plus treatment as usual for the intervention group, while the control group was treated as usual in all studies considered for this review, except for Delazizzo et al.,(2021) [24] study, where the CBTp is compared to VRT.

Table 1 summarizes the articles included in this review and details the study population characteristics, protocol, outcome measures, and main findings of each study.

	Study	Population	Protocol	Clinical and Quality of Life Outcome Measures	Main findings
1.	[5]	N=50 participants with a schizophrenia spectrum diagnosis + insomnia Age: 18-65	CBT group + TAU N=24 8Eightsessions over 12 weeks Control group (TAU) N=26 Assessments at 0, 12 and 24 weeks	Clinical outcome measures: PSYRATS Paranoid Thoughts Scale PANSS CHOICES QoL measures: E5-D5-5L	CBT led to a reduction in insomnia at 12 weeks; benefits were still apparent at 24 weeks follow-up. Quality of life and psychological well-being improved at week 24 – with small to medium effect sizes.
2.	[9]	N=61 participants with SZ + PTSD Age: 18-65	CBT + TAU group N=31 Control group (TAU) N=31 16 sessions over six months Assessments at 0, 6 and 12 months	Clinical outcome measures: PANSS PSYRATS CAPS-S PTCI BDI-II BAI GAF QoL measures: Quality of Life Scale (QLS)	No significant difference between the treatment and control groups regarding thprimaryin outcome of PTSD symptoms; No discussion on quality of life outcome – other than “the current trial did not demonstrate any effect favourvor of CBT.”

3.	[11]	N=425 participants with clozapine-resistant SZ	CBT+ TAU group N=209 Weekly sessions over 9 months + 4 booster sessions Control group (TAU) N=216 Assessments at baseline, 9 and 21 months	Clinical outcomes: PANSS PSYRATS CGI QoL measures: EQ-5D-5L	No effect of CBT on primary outcome at 21 months, but a small effect on PANSS total by the end of treatment. QoL results not discussed – fewer suicidal crises, symptom exacerbations and deteriorations occurred in the CBT group.
4.	[6]	N=99 participants with SZ spectrum disorder	CBT group + TAU N= 49 CBTsa group sessions for four weeks – 2 sessions/week for 60 min, then individual sessions for 6-8 weeks, one session/week, 45 min/session Control group (TAU)	Clinical outcome measures: PANSS QoL measures: EQ-5D-5L QALYs	Both groups showed improvement in the outcome measures, but QALYs gains were significantly higher in the CBTsa group compared to the TAU one. The add-on CBTsa intervention was associated with higher costs.
5.	[7]	N=25 adolescents with early onset psychosis – current diagnosis of schizophrenia, schizophreniform, schizoaffective or delusional disorder	CBT + TAU group N= 13 20 individual sessions over nine months; first four sessions weekly – followed by 16 sessions every other week Control group (TAU) N=12 Assessments at 9 and 24 months	Clinical outcome measures: PANSS, PSYRATS, CDSS, GAF QoL measures: MSQoL-R	No statistically significant differences between the two groups post-treatment. Small to medium between-group effect sizes in favour of CBT + TAU at post-treatment on Both PANSS (negative subscale) and MSQoL.
6.	[24]	N=74 participants with schizophrenia with auditory verbal hallucinations (AVH) (mean age: 42.5)	CBT + TAU group N=37 VRT + TAU group N=37 Nine weekly sessions of 1h Assessments before each intervention and at 3, 6, and 12 months	Clinical outcome measurements: PANSS, PSYRATS BDI-II BAVQ-R QoL measures: Q-LES-Q-SF	Both interventions led to significant improvements in AVH severity and depressive symptoms. VRT showed significant results on persecutory beliefs and quality of life. CBT did not.
7.	[8]	N=325 participants with schizophrenia spectrum psychosis	N=162 SlowMo (digitally supported CBT) + TAU group 145 participants completed all eight sessions N=163 TAU	Clinical outcome measurements: Green Paranoid Thoughts Scale, PSYRATS, PANSS QoL – not specified	SlowMo was superior to TAU in reducing paranoia. Quality of life improved - most strongly at 24 weeks

Table 1: Articles selected for this scoping review showing the protocols, population, outcomes and main findings.

Discussions

Only a few studies could be found in the recent literature to fit the criteria for this review. Consistent with recent systematic reviews and meta-analyses [25-29], our findings show that the RCTs selected for this review did not consider quality of life as a primary outcome. Contrary to a natural expectation that improving quality of life should be a significant outcome in any intervention, these studies focus mainly on clinical and cognitive improvement. Numerous RCTs on CBT in schizophrenia that did not fit our criteria for this review only indirectly hint at an improvement in quality of life due to the improvements obtained in the clinical/cognitive domain. Although quality of life refers to a state of well-being beyond the treatment of symptoms, most studies remain focused on deficits and dysfunction. Even when explicitly assessed, like in the studies examined here, the quality of life remains an elusive concept - difficulties in capturing its meaning stemming from the diversity of study designs and protocols of intervention, as well as the type of quality of life questionnaire used, sample size and demographic characteristics of it.

Four out of the seven studies selected for this review reported improvement in quality of life due to a CBT intervention. These studies report using health-related quality of life questionnaires - the EQ-5D-5L and the MSQoL-R. The EQ-5D-5L scale measures the quality of life on a 5-component scale, including mobility, self-care, usual activities, pain/discomfort, and anxiety/depression. One other study used the MSQoL-R - which consists of one "G-factor" (life in general) and six specific dimensions (physical health, vitality, psychosocial relationships, material resources, affect, and leisure time). Similar in their focus on health and health-related issues, these assessments lack an emphasis on the positives - like the enjoyment and satisfaction captured by other scales – like the Q-LES-Q or sense of fulfillment like the QoLS. An interesting addition to the EQ-5D-5L was the QALYs in the [6] study, looking into an economic evaluation of CBT and finding the improvement statistically significant.

Several limitations in these studies are important to mention in order for further studies to capture a more accurate assessment of the quality of life in relation to CBT. First, the small sample size is usually the "norm" in psychiatric populations. A second limitation refers to the difficulty in quantifying the impact the expertise of the clinician delivering the intervention has on the results. It is well known that the quality of the therapeutic report and the therapist's experience will influence the therapeutic engagement, and these factors can vary greatly from one study or setting to another. The difficulty in blinding the condition the participants are randomized to may add another confounding factor of expectation and likelihood of adherence to therapy. Another interesting question remains the impact an improvement in clinical symptoms may have on the individual's quality of life. If the lifting of psychosis symptoms leads to increased insight - the quality of life may be evaluated from a different perspective and not necessarily a favourable one. It is then crucial that along with clinical improvement, efforts are made to ensure the individual has adequate support in identifying and staying anchored in the positives of their life, where a meaning becomes accessible and the human experience is embraced in its entirety. In this regard, CBT stands out as a flexible approach - allowing for the addition of elements from different other psychotherapies - and the inclusion of strategies meant to increase satisfaction with life could be beneficial. A focus on building a sense of well-being instead of coping with symptoms (more efforts at grounding and acceptance) may provide more normalization and possibly more engagement with the therapeutic process in general.

Conclusions

Although quality of life is known to be considerably affected in individuals with schizophrenia, rigorous studies assessing the effectiveness of CBT interventions for this disorder tend to focus on clinical symptoms and cognitive deficits. Only a small number of RCTs (7) reporting on the quality of life changes as a result of a CBT intervention could be identified in the last ten years, and were included in this review. The findings are mixed, with four of the studies reporting quality of life improvement post-treatment and two studies at follow-up, while three reported no improvements or did not explicitly discuss it. With one exception, the quality of life improved along with the clinical symptoms, highlighting the connection and interdependence of the two concepts. Questions remain on whether CBT could be valuable in addressing quality of life more strategically, bypassing the persistence of symptoms and focusing on enjoyment and satisfaction, while preserving treatment adherence.

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Declaration of Competing Interest

The authors have no conflict of interest to declare.

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