



# CBT Variations in Treatment of Positive Symptoms for People with Schizophrenia: Scoping Review

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## Abstract

Schizophrenia is a disorder that affects thoughts, feelings, and behavior, often accompanied by positive symptoms such as delusions and hallucinations. CBT (cognitive behavioral therapy) is a psychotherapeutic approach that help individuals with schizophrenia develop coping strategies and reduce positive symptoms. This scoping review research maps the variations of CBT types through 24 journals from PubMed, Google Scholar, and ScienceDirect (published from 2000 to 2022), which studied participants aged 18–65 years without comorbidities. CBT can be applied individually or in groups, including general cognitive behavioral therapy, acceptance-based, cognitive behavioral social skill training, brief CBT for psychosis (culturally adapted), guided self-help, and module-based for specific symptoms. Most participants in the reviewed study were of age 30 to 50, with the majority being male. Based on the scoping review conducted, CBT can be conducted with therapist guidance or self-administered. CBT was also found to be effective in addressing positive symptoms in individuals with schizophrenia.

**Keywords:** schizophrenia; CBT; intervention; scoping review

Schizophrenia is a serious mental disorder that affects how one thinks, feels, and behaves. Individuals with schizophrenia may lose touch with reality, which can cause significant distress to themselves, their families, and friends (National Institute of Mental Health, 2020). This disorder is characterized by certain symptoms; positive symptoms, which include delusions and hallucinations; and negative symptoms, which encompass flat affect, avolition, and anhedonia. There are other symptoms, such as catatonic behavior and disorganized speech (American Psychiatric Association, 2013).

According to World Health Organization (WHO) data from 2022, schizophrenia affects approximately 24 million people or 1 in 300 people (0.32%) globally. In Indonesia, based on Riskesdas data from 2018, the prevalence is 6.4‰ for urban areas and 7.0‰ for rural areas. Generally, the onset of schizophrenia begins in late adolescence to mid-30s, but it is very rare in early adolescence (American Psychiatric Association, 2013). WHO (2022) explained that the onset of schizophrenia starts around late adolescence to the 20s and can occur earlier in men than in women. Schizophrenia is associated with disability and can affect educational and occupational performance of individuals (World Health Organization, 2019). People with schizophrenia are 2 to 3 times more likely to die earlier due to physical illnesses, e.g., cardiovascular, metabolic, and infectious diseases (WHO, 2022).

To date, there are several common approaches to managing schizophrenia, including psychopharmacological and psychological therapies. Pharmacological therapy is provided by psychiatrists to reduce emerging positive and negative symptoms (Rubio & Kane, 2022). Some commonly

prescribed medications for individuals with schizophrenia include chlorpromazine, risperidone, haloperidol, quetiapine, aripiprazole, and other antipsychotic drugs. Recent reviews have shown the potential benefits of atypical antipsychotic treatments (Stahl, 1999; Stephenson and Pilowski, 1999; in (Rector et al., 2003). Although pharmacotherapy is largely effective in treating acute psychosis and preventing relapse, most patients continue to experience occasional, at times persistent, hallucinations and delusions, negative symptoms, cognitive impairment, and chronic disability due to impairment in social and occupational functioning (Rector & Beck, 2001).

In addition to pharmacological therapy, psychological support is usually provided to individuals with schizophrenia and their caregivers, one of which is the cognitive behavioral model (Barbato et al., 1997). The cognitive approach focuses on subjective responses to dysfunctional thoughts or perceptions. This approach attempts to modify beliefs linked to delusions and ways to cope with auditory hallucinations. The strength of this model lies in its therapeutic goal, which is to build natural coping strategies in individuals with schizophrenia when facing positive symptoms, thus linking professional interventions with self-help efforts (Barbato et al., 1997). The goals of CBT used in addressing psychosis symptoms include: a) establishing a strong therapeutic alliance, characterized by acceptance, support, and collaboration; b) psychoeducation about the nature of psychosis within a biopsychosocial model to reduce stigma and normalize these experiences; c) reducing stress associated with the disorder; d) cognitive and behavioral interventions to reduce the frequency of delusions and hallucinations, and distress associated



with them; e) targeting comorbid affective states, e.g., anxiety and depression; and f) reducing relapse (Rector *et al.*, 2001). This study aimed to map the variations of CBT types that can be provided to individuals with schizophrenia in addressing their positive symptoms. This is because there has been no research attempting to map the variations of CBT conducted and the session durations that can be provided to individuals with schizophrenia. Additionally, the selection of this therapy for research is based on a review conducted by Bouchard *et al.* as cited in (Rector & Beck, 2001) where cognitive restructuring, a component that specifically target the patient's psychotic symptoms of CBT, was found to reduce domain symptoms. Further, referring to the study conducted by Shafti (2019), therapy, the therapist and patient will focus on discussing psychological therapy provided alongside pharmacology and examining the specific symptoms experienced by the patient (Alford & Beck, 1994; Dickerson, 2000). One part of the cognitive domain is belief modification (Beck, 2011). In the belief modification component, patients are asked to perceive delusions as one possible interpretation of an event. Patients are not told that the belief is wrong, but are asked by the therapist to consider alternative views of the belief. The therapist will also explain how behaviors and attitudes can be influenced by the beliefs held. This approach aims to weaken the patient's beliefs by challenging them. This approach has shown a reduction in the strength of voice-related delusions in 3 of 4 cases; the level of belief dropped from almost 100% to less than 25% for most delusions (Dickerson, 2000).

Individual cognitive behavioral therapy for schizophrenia is similar to individual supportive psychotherapy inof CBT conducted and the session durations that can be emphasizing therapeutic alliance, aiming to strengthenprovided to individuals with schizophrenia. Additionally, adaptive coping, and focusing on the patient's currentthe selection of this therapy for research is based on a life situations (Kates & Rockland as cited in (Dickerson, review conducted by Bouchard *et al.* as cited in (Rector 2000). However, CBT involves a series of interventions& Beck, 2001) where cognitive restructuring, a component that specifically target the patient's psychotic symptomsof CBT, was found to reduce domain symptoms. Further- (Scott & Dixon as cited in (Dickerson, 2000). In thismore, referring to the study conducted by Shafti (2019), therapy, the therapist and patient will focus on discussingpsychological therapy provided alongside pharmacology and examining the specific symptoms experienced by thehas shown quite good post-treatment effects, prompting patient (Alford & Beck, 1994; Dickerson, 2000). One partresearchers to further map CBT in addressing schizophre- of the cognitive domain is belief modification (Beck, 2011)nia symptoms. This study can serve as a reference for In the belief modification component, patients are askedfuture research aiming at determining the most effective to perceive delusions as one possible interpretation of anCBT intensity in addressing positive symptoms. event. Patients are not told that the belief is wrong, but The research questions posed in this study included: are asked by the therapist to consider alternative views of1.) What are the criteria for individuals with schizophre- the belief. The therapist will also explain how behaviornia to be given CBT? 2.) What types of CBT can be and attitudes can be influenced by the beliefs held. Thisprovided to individuals with schizophrenia? 3.) Which approach aims to weaken the patient's beliefs by challeng- professionals are involved in providing CBT therapy? 4.) ing them. This approach has shown a reduction in theWhat interventions are provided in conjunction with CBT strength of voice-related delusions in 3 of 4 cases; the levelto address positive symptoms of schizophrenia? of belief dropped from almost 100% to less than 25% for most delusions (Dickerson, 2000).

## 1. Methods

### 1.1 Study Design

A meta-analysis conducted by Sommer *et al.* (2012) showed beneficial effects of cognitive-based therapy on targeted schizophrenia symptoms (33 studies; effect size = 0.40) as well as significant effects for positive symptoms (32 studies), negative symptoms (23 studies), general functioning (15 studies), mood (13 studies), and social anxiety (2 studies) with effect sizes ranging from 0.35 to 0.44.

Although 32 studies reported significant effects for positive symptoms, only 26 studies specifically targeted interventions on positive symptoms. Additionally, a study conducted by Health Quality Ontario (2018) showed that CBT for psychosis, compared to usual care provided to individuals with schizophrenia, can reduce overall psychotic symptoms and positive symptoms, but has inconsistent results at the end of treatment. Furthermore, research conducted by Mortan Sevi *et al.* (2019) showed that both CBT-group and COPE-CBT can reduce or alleviate the occurrence of hallucinations, delusions, negative symptoms, depression, anxiety, and improve the quality of life of individuals with schizophrenia, but only COPE-CBT is superior compared to routine care. COPE-CBT also has advantages in several measures compared to CBT.

Several scoping reviews have been found, e.g., a study conducted by Chen *et al.* (2015) that aimed to map integrated care pathways (ICP) for the treatment of schizophrenia; a study by Fitzgerald and Ratcliffe (2020) that mapped gamification techniques in addressing symptoms faced by individuals with severe mental disorders; and Jacobsen *et al.* (2018) who sought to map psychological interventions that can be provided to address psychosis in inpatient settings. Meanwhile, there are numerous systematic literature reviews conducted to determine the effectiveness of CBT in addressing schizophrenia symptoms (Barnicot *et al.*, 2020; Ince *et al.*, 2015; Jauhar *et al.*, 2014; Naeem *et al.*, 2014; Naeem, Khoury, *et al.*, 2016; Wood *et al.*, 2020).

This study used the scoping review method. A scoping review is ideal for determining the scope or coverage of the literature on a topic and provide a clear indication of the volume of literature and research available, as well as an overview (either broad or detailed) related to the focus being studied. This method is useful for examining emerging evidence that cannot yet be explained by systematic review research (Armstrong, *et al.* as cited in (Munn *et al.*, 2018). The general purpose of conducting a scoping review is to identify and map the available evidence (Arksey & O'Malley; Anderson, *et al.* as cited in (Munn *et al.*, 2018).

The literature search was conducted on search engines such as PubMed, Google Scholar, and ScienceDirect using the following keywords: a) "Cognitive Behavioral Therapy" OR "CBT" OR "Cognitive Therapy"; b) "Schizophrenia" OR "Psychosis" OR "Schizo" OR "Schizoaffective disorder"; c) "Effectiveness" OR "Efficacy" OR "Effectivity"; d) "Randomized Controlled Trial" OR "Controlled Trial". The journals obtained were then selected using the Rayyan Systematic Review tool to check the relevance of the titles and abstracts with the PCC (Population (or participants)/Concept/Context) framework. After selection using Rayyan, the data were further analyzed to check the relevance of the journal content with the research objectives. Once the selection was completed, the data from the journals that matched the research objectives were extracted. See Table 1

### 1.2 Inclusion Criteria

Studies will be included when they fulfill the following criteria: a) focuses on people who are diagnosed with schizophrenia and not undergoing hospitalization, b) the study was published and available in a database, and c)

**Table 1**  
Database Search String

| Effectiveness of CBT in People with Schizophrenia |     |                              |                        |     |                   |     |                             |    |                  |  |
|---|-----|------------------------------|------------------------|-----|-------------------|-----|-----------------------------|----|------------------|--|
| Effectiveness                                     | AND | Cognitive Behavioral Therapy | Schizophrenia / Schizo | AND | Positive Symptoms | AND | Randomized Controlled Trial | OR | Controlled Trial |  |
| Efficacy  |     | CBT                          | Psychosis              |     |                   |     |                             |    |                  |  |
| Effectiveness                                     |     | CBT                          | Schizophrenia / Schizo |     |                   |     |                             |    |                  |  |
| Efficacy  |     | Cognitive Behavioral Therapy | Psychosis              |     |                   |     |                             |    |                  |  |

discusses CBT therapy given to people with schizophrenia. See Table 2

**Table 2**  
PCC

| PCC        | Inclusion  |
|------------|--|
| Population | People with Schizophrenia  |
| Context    | Cognitive Behavioral Therapy compared to Treatment as Usual or other psychotherapies |
| Concept    | May reduce positive symptoms of schizophrenia  |

**1.3 Protocol and Registration**

This study received approval from the Research Ethics Commission of the Faculty of Psychology, Universitas Gadjah Mada with registration number 8833/UN1/FPSi.1.3/SD/PT.01.04/2022. Meanwhile, the protocol used in this study has been registered with the Open Science Framework with DOI registration number 10.17605/OSF.IO/KJFT8

**1.4 Data Extraction**

The article selection process was conducted in two stages. The first stage involved the selection of titles and abstracts, followed by the selection of full-text articles. During the title and abstract stage, screening was performed by a single reviewer, HP, who extracted data from 4,284 journals. In the full-text stage, two reviewers, HP and LS, reviewed a total of 3,833 journals separately. The article selection was conducted independently using Rayyan.ai. During the title and abstract screening, HP marked journals that did not meet the criteria for exclusion. Subsequently, the full-text selection was also conducted independently, and discussions were held only after the entire selection process was completed. A total of 24 journals met the criteria and were then extracted into Microsoft Excel 365. The information extracted included: researcher names and publication year; research title and objectives; research methodology; components of the therapy provided (including therapy objectives); media used and implementation of therapy; participant characteristics; comparing therapy; therapy providers; and therapy effects.

**1.5 Data Analysis**

This study used a mapping review/systematic map approach for data analysis. The analysis focuses on the volume, quantity, and quality of the literature, possibly

including study design and other key features. This approach can identify the need for primary or secondary research. It is a valuable tool for policymakers, practitioners, and researchers to obtain relevant data related to the practices being conducted. Mapping reviews can characterize studies in other ways, such as by theoretical perspective, population groups, or settings in which the studies were conducted. In addition to describing the research field, systematic maps can also provide a basis to determine the need for an in-depth review and synthesis of all studies or just a subset. These maps can show whether the total population of studies is sufficiently similar for coherent synthesis. They can also determine whether these studies will help answer the review questions and address pragmatic considerations about the resources available to complete the review (Grant & Booth, 2009).

In a scoping review, the results can be presented as a 'map' of data in logical, diagrammatic, or tabular form, and/or in a descriptive format aligned with objectives and scope. Tables and charts can show the distribution of studies by year or publication period (depending on each case), country of origin, area of intervention (clinical, policy, education, etc.), and research methods. After that, reviewers are free to decide which format most rationally and clearly depicts the nature of the results in terms of the study's objectives and questions. The summary of results should logically describe the intent or objectives of the included articles, the concepts or approaches adopted in each, and the outcomes related to the review questions. For each category, a clear explanation should be provided (Peters et al., 2015).

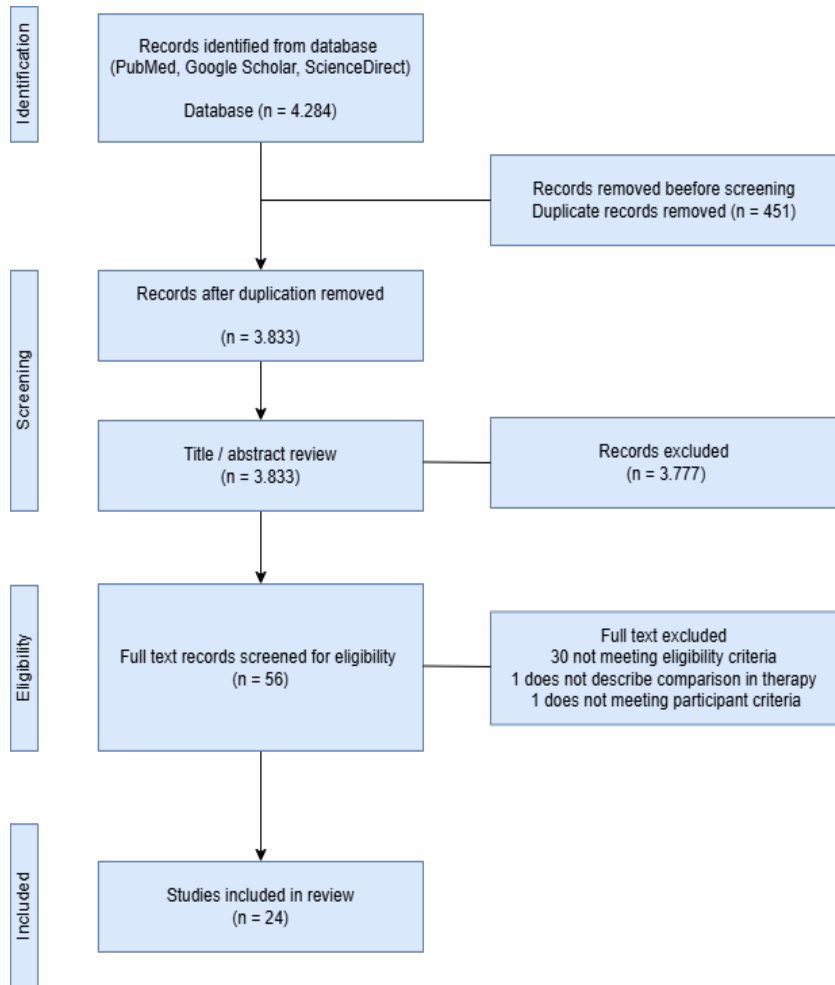
**1.6 Results**

The findings of this study were analysed based on the PCC guidelines used. See Figure 1

Figure 1 shows that the search across three databases (PubMed, Google Scholar, and ScienceDirect) yielded 4,284 articles. All the obtained articles were then imported into the Rayyan.ai software. After all the data were entered, the researchers re-screened each article to identify any duplicates from the collected studies. A total of 451 articles were identified as duplicates and were excluded from the next step.

The following step was the selection of titles and abstracts, where it was found that 3,777 articles did not meet the criteria as they did not use randomized controlled trials, were not research journals, did not target participants

**Figure 1**  
PRISMA Diagram of the Study





who were individuals with schizophrenia, did not focus on positive symptoms (either primary or secondary), and did not use CBT to treat schizophrenia. The screening results using the Rayyan application yielded 56 journals for further review.

The final screening was conducted by reading the full-text articles based on the established inclusion criteria. At this stage, the researchers were assisted by LS and SK in the review process. Based on the review results, it was found that 30 studies were excluded for not meeting the criteria, one journal did not provide an explanation regarding the comparing therapy, and one journal did not have targeted participant characteristics. Thus, 24 journals were included in this study.

### 1.7 Demographic Characteristics

The average age of participants involved fell within the following age ranges: 30-39 years (41%), 40-49 years (45%), and 50-59 years (14%).

There were two studies that did not provide demographic information on the age or gender of the participants. Based on the literature review, cognitive-behavioral therapy is typically administered to participants aged 18–65 years. In other literature not included in the reviewed journals, it is noted that cognitive behavioral therapy for psychosis can be administered to individuals as young as 16 years old, particularly those experiencing their first episode of schizophrenia (Liu et al., 2019).

Most studies involved participants aged 18 and above. This is explained in a study by Haddock et al. as cited in (O’Keeffe et al., 2017) which found that participants diagnosed with schizophrenia who are over 21 years old respond better to CBT than those under 21. Additionally, participants with higher educational level also respond better to CBT for psychosis (Kukla, et al. as cited in (O’Keeffe et al., 2017).

Rathod et al. (2005) indicated that younger patients show improvement in insight post-therapy. Eleven studies provided specific information on the gender distribution of research participants, with 68% being male and 32% female. Regarding gender, it was found that women with schizophrenia showed a greater reduction in overall symptoms and an improvement in insight (Brabban et al., 2009) in (O’Keeffe et al., 2017). Women, in general, may be better at processing, identifying, and distinguishing emotions than men. They may also be more skilled at forming relationships and alliances both inside and outside of therapy. Therefore, typically women should respond better to CBT (Brabban et al., 2009). Women in both diagnostic groups had better premorbid adjustment, less symptom misattribution, and a later start of regular drug use compared to men.

Women, however, showed a greater reduction in PANSS (Positive and Negative Syndrome Scale) depression scores than men. A significant gender-by-time interaction for drug dependence in the primary psychosis group reflected reduced drug use among primary psychosis women during the two-year follow-up period than men, and a significant gender-by-time interaction for positive symptoms in the substance-induced psychosis group. This indicated that women with schizophrenia experienced

fewer positive symptoms during the follow-up period compared to their male counterparts (Caton et al., 2014).

Conversely, a study by Lincoln et al. as cited in O’Keeffe et al. (2017), which involved 73 participants, found that gender had no significant effect on positive and negative psychosis symptoms. The higher number of male participants compared to their female counterparts may be influenced by the onset of schizophrenia itself, where men show an earlier symptoms of the disorder, a higher tendency for negative symptoms, lower social functioning, and comorbid substance abuse compared to women, while women show a relatively later onset with more affective symptoms (Li et al., 2014).

The following is the distribution of countries where CBT research was conducted: the United Kingdom (59%); the United States (21%); and the Netherlands, Pakistan, Germany, Canada, and Australia (each at 4%). Currently, CBT has become the gold standard for treating schizophrenia symptoms in the United Kingdom and is gradually spreading to the United States (A. K. Morrison, 2009). The limited application of CBT for treating schizophrenia in Asia or other areas may be influenced by several factors, such as differences in service structures across countries and skepticism towards non-medical treatments for schizophrenia (Wykes, et al. as cited in (Wong et al., 2019). Another possible factor affecting the limited use of CBT in treating schizophrenia is the assumptions and competencies of therapists in administering CBT to psychotic patients (Wong et al., 2019). See Table 3

**Table 3**  
Participant Description

| Keywords  | References   |
|---|--|
| Types of Psychotherapy  |  |
| Cognitive Behavioral Therapy  | Garety et al. (2008); Valmaggia et al. (2005); Gumley et al. (2003); Turkington et al. (2004); Startup et al. (2006); Turkington, Kingdon, Rathod, et al. (2006)   |
| Brief Cognitive behavioral therapy  | Naeem et al. (2014); Brabban et al. (2009)   |
| Group Cognitive Behavioral Therapy (or Group Person Based Cognitive Behavioral Therapy) | Bechdolf et al. (2004); Penn et al. (2009); Barrowclough et al. (2006); Chadwick et al. (2016)   |
| functional Cognitive Behavioral Therapy   | Cather et al. (2005)   |
| Cognitive behavioral therapy for worry  | Foster et al. (2010); Freeman et al. (2015)  |
| Acceptance-based cognitive behavioural therapy for command hallucinations               | Shawyer et al. (2012)  |
| Cognitive Behavioral Social Skill Training  | e. Granholm et al. (2005); E. Granholm et al. (2006)   |
| Cognitive Behavioral Therapy for psychosis based Guided Self-help (CBTp-GSH)            | Naeem, Johal, et al. (2016)  |
| Cognitive behavioral therapy in clozapine - resistant schizophrenia (FOCUS)             | A. P. Morrison et al. (2018)   |
| Cognitive behavioral therapy for psychosis  | Rathod et al. (2013), Rector et al. (2003)   |
| Guided self-help cognitive-behaviour Intervention for VoicEs                            | Hazell et al. (2017)   |
| Cognitive behavioral therapy for voices   | Wykes et al. (2005)  |
| Comparing Treatment   |  |
| Treatment as Usual  | Foster et al. (2010); E. Granholm et al. (2006); Naeem et al. (2015); Naeem, Khoury, et al. (2016); Garety et al. (2008); A. P. Morrison et al. (2018); Rathod et al. (2013); Rector et al. (2003); Gumley et al. (2003); Turkington et al. (2002); Barrowclough et al. (2006); Chadwick et al. (2016); Hazell et al. (2017); Startup et al. (2006); Turkington, Kingdon, and Weiden (2006); E. Granholm et al. (2006); Brabban et al. (2009); Wykes et al. (2005) |
| Family Intervention   | Garety et al. (2008)   |
| Supportive Counselling  | Penn et al. (2009); Valmaggia et al. (2005)  |
| Befriending Therapy   | Shawyer et al. (2012); Bechdolf et al. (2004)  |
| Psychoeducation   | Cather et al. (2005)   |
| Standard Care   | Freeman et al. (2015))   |
| Age of Intervention Group (Range)   |  |
| 30 – 39 years old   | Bechdolf et al. (2004); Valmaggia et al. (2005); Rathod et al. (2013); Rector et al. (2003); Gumley et al. (2003); Barrowclough et al. (2006); Hazell et al. (2017); Startup et al. (2006); Wykes et al. (2005)  |
| Comparing Treatment   |  |
| 40 – 49 years old   | Foster et al. (2010); Cather et al. (2005); Shawyer et al. (2012); Penn et al. (2009); Naeem, Johal, et al. (2016); A. P. Morrison et al. (2018); Freeman et al. (2015); Turkington et al. (2002); Chadwick et al. (2016); Brabban et al. (2006)   |
| 50 – 59 years old   | E. Granholm et al. (2006); Naeem, Khoury, et al. (2016); e. Granholm et al. (2005)   |
| Age of Control Group (Range)  |  |
| 30 – 39 years old   | Foster et al. (2010); Shawyer et al. (2012); Bechdolf et al. (2004); Penn et al. (2009); Naeem, Johal, et al. (2016); Valmaggia et al. (2005); Rathod et al. (2013); Gumley et al. (2003); Barrowclough et al. (2006); Startup et al. (2006); Wykes et al. (2005)  |
| 40 – 49 years old   | Cather et al. (2005); A. P. Morrison et al. (2018); Rector et al. (2003); Freeman et al. (2015); Turkington et al. (2002); Chadwick et al. (2016); Hazell et al. (2017); Brabban, et. al., (2006)  |
| 50 – 59 years old   | E. Granholm et al. (2006); Naeem et al. (2015); E. Granholm et al. (2006)  |
| Education Period  |  |
| 6 – 12 years  | Rector et al. (2003); Chadwick et al. (2016); E. Granholm et al. (2006); A. P. Morrison et al. (2018); Valmaggia et al. (2005)   |
| 13 – 18 years   | Chadwick et al. (2016); Valmaggia et al. (2005); Cather et al. (2005)  |
| IQ  |  |
| 100–105   | Freeman et al. (2015); Rector et al. (2003)  |
| 106–110   | Rector et al. (2003); Barrowclough et al. (2006)   |
| Number of Sessions  |  |
| 6 Sessions  | Naeem et al. (2015); Freeman et al. (2015); Turkington et al. (2002); Brabban et al. (2006)  |
| 7 Sessions  | Wykes et al. (2005)  |

Tabel 3 (Continued)

| Keywords                                  | References   |
|---|--|
| 12 Sessions                               | Shawyer et al. (2012); Penn et al. (2009); Rector et al. (2003); Chadwick et al. (2016); Hazell et al. (2017)  |
| 12 – 16 Sessions                          | Naeem, Khoury, et al. (2016)   |
| 16 Sessions                               | Cather et al. (2005); Bechdolf et al. (2004); Rathod et al. (2013)   |
| 18 Sessions                               | Barrowclough et al. (2006)   |
| 12 – 20 Sessions                          | Garety et al. (2008)   |
| 24 Sessions                               | e. Granholm et al. (2005); E. Granholm et al. (2006)   |
| 12 – 25 Sessions                          | Startup et al. (2006)  |
| 26 Sessions                               | A. P. Morrison et al. (2018)   |
| Duration of Interventions                 |  |
| 8 weeks                                   | Bechdolf et al. (2004); Freeman et al. (2015)  |
| 8 – 12 weeks                              | Turkington et al. (2002); Turkington, Kingdon, Rathod, et al. (2006); Brabban et al. (2006)  |
| 12 weeks                                  | Gumley et al. (2003)   |
| 16 weeks                                  | Naeem et al. (2015)  |
| 16 – 20 weeks                             | Rathod et al. (2013)   |
| 22 weeks                                  | Valmaggia et al. (2005)  |
| 24 weeks                                  | Rector et al. (2003); Barrowclough et al. (2006)   |
| 36 weeks                                  | Garety et al. (2008); A. P. Morrison et al. (2018)   |
| Duration per Session                      |  |
| 50 – 60 minutes                           | Startup et al. (2006)  |
| 60 minutes                                | Penn et al. (2009); Valmaggia et al. (2005); A. P. Morrison et al. (2018); Rathod et al. (2013); Freeman et al. (2015); Turkington et al. (2002); Hazell et al. (2017); Brabban, et. al., (2006)   |
| 60 – 90 minutes                           | Bechdolf et al. (2004)   |
| 90 minutes                                | Chadwick et al. (2016)   |
| 120 minutes                               | e. Granholm et al. (2005)  |
| Therapy (CBT) Effect                      |  |
| Small effect size                         | Foster et al. (2010); Cather et al. (2005); Shawyer et al. (2012); Bechdolf et al. (2004); e. Granholm et al. (2005); Garety et al. (2008); Valmaggia et al. (2005); A. P. Morrison et al. (2018); Gumley et al. (2003); Chadwick et al. (2016)  |
| Moderate effect size                      | Penn et al. (2009); Naeem, Khoury, et al. (2016); Rector et al. (2003); Freeman et al. (2015); Barrowclough et al. (2006); E. Granholm et al. (2006); Wykes et al. (2005)  |
| Large effect size                         | Naeem et al. (2015); Rathod et al. (2013); Turkington et al. (2002); Hazell et al. (2017); Startup et al. (2006); Turkington, Kingdon, and Weiden (2006)   |
| Lower anxiety                             | Foster et al. (2010); Freeman et al. (2015)  |
| Declined psychotic symptoms               | Cather et al. (2005); Penn et al. (2009); Naeem et al. (2015); Valmaggia et al. (2005); Rector et al. (2003); Freeman et al. (2015); Chadwick et al. (2016); Hazell et al. (2017). Startup et al. (2006); E. Granholm et al. (2006)  |
| Improved hallucination control            | Shawyer et al. (2012)  |
| Improved self-esteem                      | Bechdolf et al. (2004)   |
| Improved social skills                    | e. Granholm et al. (2005)  |
| Lower negative symptoms                   | Turkington, Kingdon, Rathod, et al. (2006); E. Granholm et al. (2006)  |
| Lower relapse rate                        | Bechdolf et al. (2004); Gumley et al. (2003)   |
| Lower depression                          | Chadwick et al. (2016)   |
| Declined helplessness and low self-esteem | Barrowclough et al. (2006); Hazell et al. (2017)   |
| Improved insight                          | Turkington, Kingdon, and Weiden (2006)   |
| Reduced duration of hospitalization       | Bechdolf et al. (2004)   |
| Lower psychopathology                     | Naeem, Johal, et al. (2016); A. P. Morrison et al. (2018); Rathod et al. (2013); Turkington et al. (2002);   |
| Unable to lower psychosis                 | Turkington, Kingdon, Rathod, et al. (2006); Wykes et al. (2005)  |
| Unable to reduce relapse rate             | Garety et al. (2008)   |
| Improved psychological well-being         | Freeman et al. (2015)  |
| Country                                   |  |
| United Kingdom                            | Foster et al. (2010); Garety et al. (2008); A. P. Morrison et al. (2018); Rathod et al. (2013); Gumley et al. (2003); Freeman et al. (2015); Turkington et al. (2002); Barrowclough et al. (2006); Chadwick et al. (2016); Hazell et al. (2017); Startup et al. (2006); Turkington, Kingdon, Rathod, et al. (2006); Brabban et al. (2009); Wykes et al. (2005) |

**Tabel 3 (Continued)**

| Keywords      | References  |
|---------------|---|
| United States | Cather et al. (2005); e. Granholm et al. (2005); Penn et al. (2005); Rector et al. (2003); E. Granholm et al. (2006); |
| Netherlands   | Valmaggia et al. (2005)   |
| Canada        | Naeem, Khoury, et al. (2016)  |
| Pakistan      | Naeem et al. (2015)   |
| Germany       | Bechdorf et al. (2004)  |
| Australia     | Shawyer et al. (2012)   |

\*Results reporting table refers to the scoping review conducted by Chen et al. (2015)



## 2. Discussion

Schizophrenia is a disorder that causes psychosis and contributes to significant disability, affecting various aspects of life, including personal, family, social, educational, and occupational functions (WHO, 2022). One of the therapies increasingly applied in the treatment of schizophrenia is Cognitive Behavioral Therapy (CBT), which aims to address both the positive and negative symptoms of this disorder. This study focused on mapping the types of CBT that could help individuals with schizophrenia manage the positive symptoms they experience.

In its application, CBT for schizophrenia varies, in which therapy modules are developed according to the specific goals of each approach. Some are even tailored to cultural factors, such as specific ethnic groups or countries. These variations have different impacts on individuals with schizophrenia, ranging from reducing positive symptoms, and decreasing concerns about delusions, to lowering the risk of relapse. However, in some cases, not all patients experience reduced relapse rates. Factors influencing the effectiveness of CBT include the modules used, the skills taught, the therapy setting, and the involvement of the support system and resources available to the patient.

Currently, CBT is considered the gold standard in psychological therapy for schizophrenia, although its application is still limited in some countries due to differences in healthcare systems and skepticism toward non-medical approaches in treating schizophrenia (Wykes et al. as cited in (Wong et al., 2019)). CBT has become the primary standard because it's studied extensively. Additionally, the mechanism of CBT aligns with the main theories in information processing and human thinking and behavior patterns (David et al., 2018). Another advantage of CBT is its potential to address symptoms that cannot be specifically targeted by antipsychotic medications. Several studies conducted with sound methodologies have shown that CBT is effective in reducing anxiety related to delusions and increasing control over harmful auditory hallucinations.

In terms of duration, CBT can be administered over varying periods, ranging from a minimum of 6 sessions over 8 weeks with each session lasting 50 minutes, to a maximum of 26 sessions over 36 weeks with each meeting lasting 90 minutes. Some countries that have implemented CBT to address positive symptoms of schizophrenia include the United Kingdom, the United States, the Netherlands, Canada, Pakistan, Germany, and Australia.

However, the meta-analytic database on the effectiveness of CBT in treating schizophrenia symptoms is still limited and the results are not entirely encouraging (Jauhar et al., 2019). Future research is expected to further explore the various components of CBT that can be developed into an effective schizophrenia treatment. Additionally, researchers need to examine the challenges faced by countries outside the United Kingdom and the United States in accessing CBT, so that more inclusive therapy guidelines can be developed and tailored to the specific conditions of each region.

Referring to Bighelli et al. (2018), it is known that CBT is also associated with a reduction in positive symptoms in people with schizophrenia compared to inactive controls. The number of sessions, duration, setting (indi-

vidual or group), therapist expertise, and initial severity did not affect the impact on participants. However, patients involved in the study generally fell into the moderate disorder category, unlike the participants in meta-analyses that compared antipsychotic drugs with placebos, where they tend to exhibit severe symptoms. This indicates that patients with severe conditions are generally not included in psychotherapy-related studies. However, this is consistent with clinical practice, as psychotherapy requires active participation and cooperation from patients, while patients with very severe conditions often do not possess this capacity.

## 3. Conclusion

Based on the scoping review, it can be concluded that CBT designed to reduce positive symptoms in people with schizophrenia is quite varied, whether in delivery mechanism (individual or in groups), length (number of sessions, duration of each session), instructors (therapist/counselor or self-administered), and so on.

This study certainly had limitations. Researchers did not use a more specific string of keywords, leading to the large results at the beginning of the review. This resulted in a longer time spent on the study. In addition, some of the journals reviewed did not explain more details about the intervention process carried out so the findings obtained were not optimal. The second reviewer was not involved from the beginning in selecting data so the potential of bias in this study was quite high. Not only that, there were changes in the inclusion criteria so that the record of findings changed, especially in the protocol used.

### 3.1 Recommendations

Future research could improve the search strings to make them more specific, which would allow researchers to identify relevant journals more easily. Additionally, all involved researchers should participate from the early stage of the data selection process—particularly when reviewing titles and abstracts—to minimize potential bias. Future research could also focus on determining the most effective intensity of CBT for individuals with schizophrenia.

## 4. Declaration

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This research received no funding from any party.


### 4.3 Author Contributions

SK contributed to the supervision of the research manuscript. HP contributed to data collection, data analysis, and manuscript writing.

### 4.4 Conflict of Interest

Authors declare no conflict of interest in regards to this research.

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#### References

- Alford, B. A., & Beck, A. T. (1994). Cognitive therapy of delusional beliefs. *Behaviour Research and Therapy*, *32*(3), 369–380. [https://doi.org/10.1016/0005-7967\(94\)90134-1](https://doi.org/10.1016/0005-7967(94)90134-1)
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders*. <https://doi.org/10.1176/appi.books.9780890425596>
- Barbato, A., for Mental Health Initiative, W. N., of Mental Health, W. H. O. D., & of Substance Abuse, P. (1997). *Schizophrenia and public health*. World Health Organization. <https://iris.who.int/handle/10665/63837>
- Barnicot, K., Michael, C., Trione, E., Lang, S., Saunders, T., Sharp, M., & Crawford, M. (2020). Psychological interventions for acute psychiatric inpatients with schizophrenia-spectrum disorders: A systematic review and meta-analysis. *Clinical Psychology Review*, *82*, 101929. <https://doi.org/10.1016/j.cpr.2020.101929>
- Barrowclough, C., Haddock, G., Lobban, F., Jones, S., Siddler, R., Roberts, C., & Gregg, L. (2006). Group cognitive-behavioural therapy for schizophrenia: Randomised controlled trial. *British Journal of Psychiatry*, *189*(6), 527–532. <https://doi.org/10.1192/bjp.bp.106.021386>
- Bechdolf, A., Knost, B., Kuntermann, C., Schiller, S., Klosterkotter, J., Hambrecht, M., & Pukrop, R. (2004). A randomized comparison of group cognitive-behavioural therapy and group psychoeducation in patients with schizophrenia. *Acta Psychiatrica Scandinavica*, *110*(1), 21–28. <https://doi.org/10.1111/j.1600-0447.2004.00300.x>
- Beck, J. S. (2011). *Cognitive behaviour therapy: Basics and beyond (2nd ed.)*. Guilford Press.
- Bighelli, I., Salanti, G., Huhn, M., Schneider-Thoma, J., Krause, M., Reitmeir, C., Wallis, S., Schwermann, F., Pitschel-Walz, G., Barbui, C., Furukawa, T. A., & Leucht, S. (2018). Psychological interventions to reduce positive symptoms in schizophrenia: Systematic review and network meta-analysis. *World Psychiatry*, *17*(3), 316–329. <https://doi.org/10.1002/wps.20577>
- Brabban, A., Tai, S., & Turkington, D. (2009). Predictors of outcome in brief cognitive behavior therapy for schizophrenia. *Schizophrenia Bulletin*, *35*(5), 859–864. <https://doi.org/10.1093/schbul/sbp065>
- Brabban, A., McGonagle, I., & Brooker, C. (2006). The 10 essential shared capabilities: a framework for mental health practice. *The Journal of Mental Health Training, Education and Practice*, *1*(3), 4–15. <https://doi.org/10.1108/17556228200600019>
- Cather, C., Penn, D., Otto, M. W., Yovel, I., Mueser, K. T., & Goff, D. C. (2005). A pilot study of functional Cognitive Behavioral Therapy (fCBT) for schizophrenia. *Schizophrenia Research*, *74*(2–3), 201–209. <https://doi.org/10.1016/j.schres.2004.05.002>
- Caton, C. L. M., Xie, H., Drake, R. E., & McHugo, G. (2014). Gender differences in psychotic disorders with concurrent substance use. *Journal of Dual Diagnosis*, *10*(4), 177–186. <https://doi.org/10.1080/15504263.2014.961882>
- Chadwick, P., Strauss, C., Jones, A.-M., Kingdon, D., Ellett, L., Dannahy, L., & Hayward, M. (2016). Group mindfulness-based intervention for distressing voices: A pragmatic randomised controlled trial. *Schizophrenia Research*, *175*(1–3), 168–173. <https://doi.org/10.1016/j.schres.2016.04.001>
- Chen, S., Awan, S., Rajji, T., Abdool, P., George, T. P., Collins, A., & Kidd, S. A. (2015). Integrated care pathways for schizophrenia: A scoping review. *Administration and Policy in Mental Health and Mental Health Services Research*, *43*(5), 760–767. <https://doi.org/10.1007/s10488-015-0696-z>
- David, D., Cristea, I., & Hofmann, S. G. (2018). Why cognitive behavioral therapy is the current gold standard of psychotherapy. *Frontiers in Psychiatry*, *9*. <https://doi.org/10.3389/fpsyt.2018.00004>
- Dickerson, F. B. (2000). Cognitive behavioral psychotherapy for schizophrenia: a review of recent empirical studies. *Schizophrenia Research*, *43*(2–3), 71–90. [https://doi.org/10.1016/S0920-9964\(99\)00153-x](https://doi.org/10.1016/S0920-9964(99)00153-x)
- Fitzgerald, M., & Ratcliffe, G. (2020). Serious games, gamification, and serious mental illness: A scoping review. *Psychiatric Services*, *71*(2), 170–183. <https://doi.org/10.1176/appi.ps.201800567>
- Foster, C., Startup, H., Potts, L., & Freeman, D. (2010). A randomised controlled trial of a worry intervention for individuals with persistent persecutory delusions. *Journal of Behavior Therapy and Experimental Psychiatry*, *41*(1), 45–51. <https://doi.org/10.1016/j.jbtep.2009.09.001>
- Freeman, D., Dunn, G., Startup, H., Pugh, K., Cordwell, J., Mander, H., Černis, E., Wingham, G., Shirvell, K., & Kingdon, D. (2015). Effects of cognitive behaviour therapy for worry on persecutory delusions in patients with psychosis (WIT): a parallel, single-blind, randomised controlled trial with a mediation analysis. *The Lancet Psychiatry*, *2*(4), 305–313. [https://doi.org/10.1016/S2215-0366\(15\)00039-5](https://doi.org/10.1016/S2215-0366(15)00039-5)
- Garety, P. A., Fowler, D. G., Freeman, D., Bebbington, P., Dunn, G., & Kuipers, E. (2008). Cognitive-behavioural therapy and family intervention for relapse prevention and symptom reduction in psychosis: Randomised controlled trial. *British Journal of Psychiatry*, *192*(6), 412–423. <https://doi.org/10.1192/bjp.bp.107.043570>
- Granholt, E., Auslander, L. A., Gottlieb, J. D., McQuaid, J. R., & McClure, F. S. (2006). Therapeutic factors contributing to change in cognitive-behavioral group therapy for older persons with schizophrenia. *Journal of Contemporary Psychotherapy*, *36*(1), 31–41. <https://doi.org/10.1007/s10879-005-9004-7>
- Granholt, E., McQuaid, J. R., McClure, F. S., Auslander, L. A., Perivoliotis, D., Pedrelli, P., Patterson, T., & Jeste, D. V. (2005). A randomized, controlled trial of cognitive behavioral social skills training for middle-aged and older outpatients with chronic schizophrenia. *American Journal of Psychiatry*, *162*(3), 520–529. <https://doi.org/10.1176/appi.ajp.162.3.520>
- Grant, M. J., & Booth, A. (2009). A typology of reviews: An analysis of 14 review types and associated methodologies. *Health Information & Libraries Journal*, *26*(2), 91–108. <https://doi.org/10.1111/j.1471-1842.2009.00848.x>
- Gumley, A., O'grady, M., McNay, L., Reilly, J., Power, K., & Norrie, J. (2003). Early intervention for relapse in schizophrenia: results of a 12-month randomized controlled trial of cognitive behavioural therapy. *Psychological Medicine*, *33*(3), 419–431. <https://doi.org/10.1017/s0033291703007323>
- Hazell, C. M., Hayward, M., Cavanagh, K., Jones, A.-M., & Strauss, C. (2017). Guided self-help cognitive-behaviour Intervention for VoicEs (GiVE): Results from a pilot randomised controlled trial in a transdiagnostic sample. *Schizophrenia Research*, *195*, 441–447. <https://doi.org/10.1016/j.schres.2017.10.004>
- Health Quality Ontario. (2018). Cognitive behavioural therapy for psychosis: A health technology assessment. *Ontario health technology assessment series*, *18*(5).
- Ince, P., Haddock, G., & Tai, S. (2015). A systematic review of the implementation of recommended psychological interventions for schizophrenia: Rates, barriers, and improvement strategies. *Psychology and Psychotherapy: Theory, Research and Practice*, *89*(3), 324–350. <https://doi.org/10.1111/papt.12084>
- Jacobsen, P., Hodkinson, K., Peters, E., & Chadwick, P. (2018). A systematic scoping review of psychological therapies for psychosis within acute psychiatric in-patient settings. *The British Journal of Psychiatry*, *213*(2), 490–497. <https://doi.org/10.1192/bjp.2018.106>
- Jauhar, S., Laws, K. R., & McKenna, P. J. (2019). CBT for schizophrenia: A critical viewpoint. *Psychological Medicine*, *49*(8), 1233–1236. <https://doi.org/10.1017/s0033291718004166>
- Jauhar, S., McKenna, P. J., Radua, J., Fung, E., Salvador, R., & Laws, K. R. (2014). Cognitive-behavioural therapy for the symptoms of schizophrenia: Systematic review and meta-analysis with examination of potential bias. *British Journal of Psychiatry*, *204*(1), 20–29. <https://doi.org/10.1192/bjp.bp.112.116285>

- Li, Z.-J., Guo, Z.-H., Wang, N., Xu, Z.-Y., Qu, Y., Wang, X.-Q., Sun, J., Yan, L.-Q., Ng, R. M. K., Turkington, D., & Kingdon, D. (2014). Cognitive-behavioural therapy for patients with schizophrenia: A multicentre randomized controlled trial in Beijing, China. *Psychological Medicine*, *45*(9), 1893–1905. <https://doi.org/10.1017/s0033291714002992>
- Liu, Y., Yang, X., Gillespie, A., Guo, Z., Ma, Y., Chen, R., & Li, Z. (2019). Targeting relapse prevention and positive symptom in first-episode schizophrenia using brief cognitive behavioral therapy: A pilot randomized controlled study. *Psychiatry Research*, *272*, 275–283. <https://doi.org/10.1016/j.psychres.2018.12.130>
- Morrison, A. K. (2009). Cognitive behavior therapy for people with schizophrenia. *Psychiatry*, *6*(12), 32–39. <https://pubmed.ncbi.nlm.nih.gov/articles/PMC2811142/>
- Morrison, A. P., Pyle, M., Gumley, A., Schwannauer, M., Turkington, D., MacLennan, G., Norrie, J., Hudson, J., Bowe, S. E., French, P., Byrne, R., Syrett, S., Dudley, R., McLeod, H. J., Griffiths, H., Barnes, T. R. E., Davies, L., Kingdon, D., Aydinlar, S., ... Tully, S. (2018). Cognitive behavioural therapy in clozapine-resistant schizophrenia (FOCUS): an assessor-blinded, randomised controlled trial. *The Lancet Psychiatry*, *5*(8), 633–643. [https://doi.org/10.1016/s2215-0366\(18\)30184-6](https://doi.org/10.1016/s2215-0366(18)30184-6)
- Mortan Sevi, O., Tekinsav Sutcu, S., Yesilyurt, S., Turan Eroglu, S., & Gunes, B. (2019). Comparison of the effectiveness of two cognitive-behavioral group therapy programs for schizophrenia: Results of a short-term randomized control trial. *Community Mental Health Journal*, *56*(2), 222–228. <https://doi.org/10.1007/s10597-019-00448-y>
- Munn, Z., Peters, M. D. J., Stern, C., Tufanaru, C., McArthur, A., & Aromataris, E. (2018). Systematic review or scoping review? Guidance for authors when choosing between a systematic or scoping review approach. *BMC Medical Research Methodology*, *18*(1). <https://doi.org/10.1186/s12874-018-0611-x>
- Naeem, F., Farooq, S., & Kingdon, D. (2014). Cognitive behavioral therapy (brief vs standard duration) for schizophrenia. *Schizophrenia Bulletin*, *40*(5), 958–959. <https://doi.org/10.1093/schbul/sbu113>
- Naeem, F., Johal, R., McKenna, C., Rathod, S., Ayub, M., Lecomte, T., Husain, N., Kingdon, D., & Farooq, S. (2016). Cognitive Behavior Therapy for psychosis based Guided Self-help (CBTp-GSH) delivered by frontline mental health professionals: Results of a feasibility study. *Schizophrenia Research*, *173*(1–2), 69–74. <https://doi.org/10.1016/j.schres.2016.03.003>
- Naeem, F., Khoury, B., Munshi, T., Ayub, M., Lecomte, T., Kingdon, D., & Farooq, S. (2016). Brief cognitive behavioral therapy for psychosis (CBTp) for schizophrenia: Literature review and meta-analysis. *International Journal of Cognitive Therapy*, *9*(1), 73–86. [https://doi.org/10.1521/ijct\\_2016\\_09\\_04](https://doi.org/10.1521/ijct_2016_09_04)
- Naeem, F., Saeed, S., Irfan, M., Kiran, T., Mehmood, N., Gul, M., Munshi, T., Ahmad, S., Kazmi, A., Husain, N., Farooq, S., Ayub, M., & Kingdon, D. (2015). Brief culturally adapted CBT for psychosis (CaCBTp): A randomized controlled trial from a low income country. *Schizophrenia Research*, *164*(1–3), 143–148. <https://doi.org/10.1016/j.schres.2015.02.015>
- National Institute of Mental Health. (2020). Schizophrenia. <https://www.nimh.nih.gov/health/topics/schizophrenia>
- O’Keeffe, J., Conway, R., & McGuire, B. (2017). A systematic review examining factors predicting favourable outcome in cognitive behavioural interventions for psychosis. *Schizophrenia Research*, *183*, 22–30. <https://doi.org/10.1016/j.schres.2016.11.021>
- Penn, D. L., Meyer, P. S., Evans, E., Wirth, R., Cai, K., & Burchinal, M. (2009). A randomized controlled trial of group cognitive-behavioral therapy vs. enhanced supportive therapy for auditory hallucinations. *Schizophrenia Research*, *109*(1–3), 52–59. <https://doi.org/10.1016/j.schres.2008.12.009>
- Penn, D. L., Waldheter, E. J., Perkins, D. O., Mueser, K. T., & Lieberman, J. A. (2005). Psychosocial treatment for first-episode psychosis: A research update. *American Journal of Psychiatry*, *162*(12), 2220–2220. <https://doi.org/10.1176/appi.ajp.162.12.2220>
- Peters, M. D., Godfrey, C. M., Khalil, H., McInerney, P., Parker, D., & Soares, C. B. (2015). Guidance for conducting systematic reviews. *International Journal of Evidence-Based Healthcare*, *13*(3), 141–146. <https://doi.org/10.1097/xeb.0000000000000050>
- Rathod, S., Kingdon, D., Smith, P., & Turkington, D. (2005). Insight into schizophrenia: The effects of cognitive behavioural therapy on the components of insight and association with sociodemographics—data on a previously published randomised controlled trial. *Schizophrenia Research*, *74*(2–3), 211–219. <https://doi.org/10.1016/j.schres.2004.07.003>
- Rathod, S., Phiri, P., Harris, S., Underwood, C., Thagadur, M., Padmanabi, U., & Kingdon, D. (2013). Cognitive behaviour therapy for psychosis can be adapted for minority ethnic groups: A randomised controlled trial. *Schizophrenia Research*, *143*(2–3), 319–326. <https://doi.org/10.1016/j.schres.2012.11.007>
- Rector, N. A., & Beck, A. T. (2001). Cognitive behavioral therapy for schizophrenia: An empirical review. *The Journal of Nervous and Mental Disease*, *189*(5), 278–287. <https://doi.org/10.1097/00005053-200105000-00002>
- Rector, N. A., Seeman, M. V., & Segal, Z. V. (2003). Cognitive therapy for schizophrenia: A preliminary randomized controlled trial. *Schizophrenia Research*, *63*(1–2), 1–11. [https://doi.org/10.1016/s0920-9964\(02\)00308-0](https://doi.org/10.1016/s0920-9964(02)00308-0)
- Rubio, J. M., & Kane, J. M. (2022). The pharmacological treatment of schizophrenia: How far have we come? *Psychiatry and Clinical Neurosciences Reports*, *1*(2). <https://doi.org/10.1002/pcn5.13>
- Shafti, S. S. (2019). Pharmacotherapy Vs. Psychotherapy: An educational challenge in current psychiatric training. *Scholarly Journal of Psychology and Behavioral Sciences*, *2*(2). <https://doi.org/10.32474/sjpbs.2019.02.000133>
- Shawyer, F., Farhall, J., Mackinnon, A., Trauer, T., Sims, E., Ratcliff, K., Lerner, C., Thomas, N., Castle, D., Mullen, P., & Copolov, D. (2012). A randomised controlled trial of acceptance-based cognitive behavioural therapy for command hallucinations in psychotic disorders. *Behaviour Research and Therapy*, *50*(2), 110–121. <https://doi.org/10.1016/j.brat.2011.11.007>
- Sommer, I. E. C., Slotema, C. W., Daskalakis, Z. J., Derks, E. M., Blom, J. D., & van der Gaag, M. (2012). The treatment of hallucinations in schizophrenia spectrum disorders. *Schizophrenia Bulletin*, *38*(4), 704–714. <https://doi.org/10.1093/schbul/sbs034>
- Startup, M., Jackson, M. C., & Startup, S. (2006). Insight and recovery from acute psychotic episodes: The effects of cognitive behavior therapy and premature termination of treatment. *Journal of Nervous & Mental Disease*, *194*(10), 740–745. <https://doi.org/10.1097/01.nmd.0000243081.97879.b9>
- Turkington, D., Dudley, R., Warman, D. M., & Beck, A. T. (2004). Cognitive-behavioral therapy for schizophrenia: A review. *Journal of Psychiatric Practice*, *10*(1), 5–16. <https://doi.org/10.1097/00131746-200401000-00002>
- Turkington, D., Kingdon, D., Rathod, S., Hammond, K., Pelton, J., & Mehta, R. (2006). Outcomes of an effectiveness trial of cognitive-behavioural intervention by mental health nurses in schizophrenia. *British Journal of Psychiatry*, *189*(1), 36–40. <https://doi.org/10.1192/bjp.bp.105.010884>
- Turkington, D., Kingdon, D., & Turner, T. (2002). Effectiveness of a brief cognitive-behavioural therapy intervention in the treatment of schizophrenia. *British Journal of Psychiatry*, *180*(6), 523–527. <https://doi.org/10.1192/bjp.180.6.523>
- Turkington, D., Kingdon, D., & Weiden, P. J. (2006). Cognitive behavior therapy for schizophrenia. *American Journal of Psychiatry*, *163*(3), 365–373. <https://doi.org/10.1176/appi.ajp.163.3.365>
- Valmaggia, L. R., van der Gaag, M., Tarrier, N., Pijnenborg, M., & Slooff, C. J. (2005). Cognitive-behavioural therapy for refractory psychotic symptoms of schizophrenia resistant to atypical antipsychotic medication: Randomised controlled trial. *British Journal of Psychiatry*, *186*(4), 324–330. <https://doi.org/10.1192/bjp.186.4.324>
- WHO. (2022). Schizophrenia. <https://www.who.int/news-room/factsheets/detail/schizophrenia>
- Wong, J. P. S., Ting, K. T., & Wong, A. W. S. (2019). Group cognitive behavioural therapy for psychosis in the Asian

context: A review of the recent studies. *International Review of Psychiatry*, 31(5–6), 460–470. <https://doi.org/10.1080/09540261.2019.1634012>

- Wood, L., Williams, C., Billings, J., & Johnson, S. (2020). A systematic review and meta-analysis of cognitive behavioural informed psychological interventions for psychiatric inpatients with psychosis. *Schizophrenia Research*, 222, 133–144. <https://doi.org/10.1016/j.schres.2020.03.041>
- World Health Organization. (2019). Schizophrenia. <https://www.who.int/news-room/fact-sheets/detail/schizophrenia>
- Wykes, T., Hayward, P., Thomas, N., Green, N., Surguladze, S., Fannon, D., & Landau, S. (2005). What are the effects of group cognitive behaviour therapy for voices? A randomised control trial. *Schizophrenia Research*, 77(2–3), 201–210. <https://doi.org/10.1016/j.schres.2005.03.013>