



**An-Najah National University**

**Faculty of Graduate Studies**

**THE EFFECT OF COGNITIVE BEHAVIORAL  
THERAPY IN TREATING HALLUCINATIONS  
AND DELUSIONS AMONG PATIENTS WITH  
SCHIZOPHRENIA: A QUASI-EXPERIMENTAL  
TRIAL**

**By**

**Salsabeel Sameh Hashem Zamareh**

**Supervisor**

**Dr. Adnan Sarhan**

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# THE EFFECT OF COGNITIVE BEHAVIORAL THERAPY IN TREATING HALLUCINATIONS AND DELUSIONS AMONG PATIENTS WITH SCHIZOPHRENIA: A QUASI-EXPERIMENTAL TRIAL

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Salsabeel Sameh Hashem Zamareh

This Thesis was Defended Successfully on 27/4/2024 and approved by

Dr. Adnan Sarhan

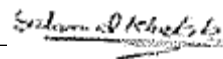
Supervisor



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Dr. Salam Alkhatib

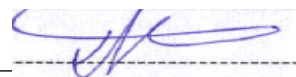
External Examiner



Signature

Dr. Shadi Abualkibash

Internal Examiner



Signature

## **Dedication**

I dedicate this research to:

The sake of Allah, my creator and master, my mother and husband. The two persons that gave the tools and values necessary to be where I am standing today, who have been my constant source of love and support and I am grateful for the sacrifices they have made to help me pursue my dreams. And to the soul of my late father.

I would also like to express my gratitude to my professors, especially to my supervisor Dr. Adnan Sarhan whose guidance and expertise have challenged me to grow and develop as a student. Their dedication to teaching and commitment to excellence have been a source of motivation and inspiration and I am honored to have had the opportunity to learn from them.

Finally, I would like to acknowledge my family, classmates and friends, whose support have made this journey more fulfilling. Their encouragement, collaboration have helped me to overcome obstacles and celebrate achievements.

May Allah accept this work.

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## Declaration

I, the undersigned, declare that I submitted the thesis entitled:

**THE EFFECT OF COGNITIVE BEHAVIORAL THERAPY IN TREATING HALLUCINATIONS AND DELUSIONS AMONG PATIENTS WITH SCHIZOPHRENIA: A QUASI-EXPERIMENTAL TRIAL**

I declare that the work provided in this thesis, unless otherwise referenced, is the researcher's own work, and has not been submitted elsewhere for any other degree or qualification.

Student's Name:	<u>Salsabeel Samah Zamareh</u>
Signature:	<u>Salsabeel</u>
Date:	<u>27/4/2024</u>

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# THE EFFECT OF COGNITIVE BEHAVIORAL THERAPY IN TREATING HALLUCINATIONS AND DELUSIONS AMONG PATIENTS WITH SCHIZOPHRENIA: A QUASI-EXPERIMENTAL TRIAL

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Supervisor

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## Abstract

**Background:** Schizophrenia is a leading cause of disability across the globe, affecting nearly 1% of the worldwide population. Cognitive Behavioral Therapy for Psychosis (CBTp) is recognized as an established therapeutic approach, proving effective in mitigating symptoms and enhancing the quality of life for those with psychotic disorders. CBTp is aimed at enhancing functionality while navigating through challenging symptoms such as hallucinations, negative symptoms, cognitive disturbances, and delusions.

**Method:** This study employed a quasi-experimental methodology and was conducted at the Hebron mental health clinic from January to March 2023. It utilized two assessment tools: The Psychotic Symptom Rating Scales (PSYRATS) and the Positive and Negative Syndrome Scale (PANSS), with the SPSS version 28 for statistical analysis.

**Results:** The intervention group showed a statistically significant improvement in post-test scores for auditory hallucinations, delusions, and overall severity of schizophrenia compared to the control group ( $p < 0.05$ ). Furthermore, a significant reduction in distress and anxiety levels was noted in the intervention group's post-test scores compared to the control group ( $p < 0.05$ ). Additionally, no significant differences were found in the outcomes related to auditory hallucinations, delusions, and schizophrenia severity across various demographic groups of participants ( $p > 0.05$ ).

**Conclusion:** The outcomes of this study highlight the pivotal contribution of CBT to the considerable decrease in overall psychotic symptoms, especially in positive symptoms, auditory hallucinations, and delusions within the case group. This work contributes to the growing evidence supporting the adaptation of validated interventions and the efficacy and acceptance of CBT in the treatment of psychosis.

**Keywords:** Delusions, Hallucinations, Psychosis, Cognitive Behavioral Therapy (CBT).

# **Chapter One**

## **Introduction**

The understanding of psychosis has evolved through the historical context of mental disorder concepts for nearly 170 years. While "psychosis" has yet to be defined uniformly, it represents a clinical construct encompassing a variety of symptoms. At its core, psychosis is characterized by delusions, hallucinations, and disordered thinking. Investigations into what underlies psychotic symptoms suggest that they may stem from a mix of neuropsychological processes that lead to a distortion of reality (Gaebel & Zielasek, 2015).

In the early version of the Diagnostic and Statistical Manual of Mental Disorders by the American Psychiatric Association (APA), psychosis was characterized as a significant disruption in reality testing or the erosion of ego boundaries, hindering an individual's ability to manage everyday life demands (Blashfield, 1973). However, the contemporary understanding of psychosis, as outlined by both the APA and the World Health Organization, adopts a more specific criterion. It mandates the occurrence of hallucinations (with a lack of awareness of their pathological origins), delusions, or a combination of both hallucinations without insight and delusions for a diagnosis (Sarmiento & Lau, 2020).

Acute psychosis is categorized as primary when it manifests as a symptom of a psychiatric condition, or secondary when it arises from a specific medical issue. Individuals experiencing primary acute psychosis typically present with auditory hallucinations, significant disturbances in cognition, and complex delusions. In contrast, psychosis stemming from a medical condition often leads to cognitive impairments, unusual vital signs, and potentially visual hallucinations. The use of illegal drugs is frequently identified as the leading medical trigger for acute psychosis. Medical practitioners are advised to inquire about recent incidents of head injury or trauma, episodes of seizures, signs of cerebrovascular disease, or the emergence or exacerbation of headaches.

The gradual onset of psychosis may indicate a potential oncological origin. Gathering a comprehensive history from family members is crucial for a thorough understanding of the illness's onset and progression (Garrett, 2016).

Schizophrenia is a multifaceted psychiatric disorder, often first identified through an initial psychotic episode—marked by a disconnection from reality—between the ages of 16 and 30 (NICE(National Institution for health and Care Excellence), 2014). Its symptoms are broadly divided into positive or negative categories. Positive symptoms encompass experiences like hallucinations, delusions, and erratic behaviors. In contrast, negative symptoms involve diminished emotional expression and a lack of motivation. Additionally, these symptoms may coexist with mood disorders, including depression or mania, leading to a diagnosis of schizoaffective disorder. Individuals suffering from schizophrenia frequently face challenges in social and occupational settings and may have difficulties with personal care (NICE, 2014). Recognized as a critical cause of disability worldwide, schizophrenia affects nearly 1% of the population globally (Moreno-Küstner et al., 2018).

Since psychoanalysis emerged a century ago, there has consistently been a group of clinicians who advocated psychotherapy's application to psychosis. Among these pioneers, Paul Federn stands out as the first to extensively discuss the psychodynamics of psychosis, advocating for specialized adjustments in therapeutic techniques. “Cognitive models of psychosis are an important link in this chain. They provide a psychological description of the phenomena from which hypotheses concerning causal processes can be derived and tested; social, individual, and neurobiological factors can then be integrated via their impact on these cognitive processes” (Garety et al., 2001).

Over the past decade, there has been growing consensus on “the importance of connecting phenomenological experiences with social, psychological, and neurobiological explanations to better comprehend psychosis symptoms”. Cognitive models have emerged as a crucial intermediary in this endeavour, offering a psychological framework that allows for the hypothesis and verification of causal mechanisms. These models enable the integration of social, individual, and neurobiological influences through their effect on cognitive functions (Pillny & Lincoln, 2020).

Current therapeutic guidelines endorse a variety of psychotherapeutic methods for treating psychotic disorders, tailored to different treatment objectives. Cognitive Behavioral Therapy (CBT) is specifically recommended for addressing positive symptoms and overall symptoms across all stages of the disorder, without limitations (Tarrier, 2005). Yet, there remains a significant gap in our comprehensive understanding of the psychopathological underpinnings of psychosis, which would elucidate the therapeutic transformations observed. Psychopathology is “the scientific exploration of abnormal mental states that, for more than a century, has provided a gestalt for psychiatric disorders and guided clinical as well as scientific progress in modern psychiatry”. In the wake of the immense technical advances, however, psychopathology has been increasingly marginalized by neurobiological, genetic, and neuropsychological research. This ongoing erosion of psychiatric phenomenology is further fostered by clinical casualness as well as pressured health care and research systems. “The skill to precisely and carefully assess psychopathology in a qualified manner used to be a core attribute of mental health professionals, but today's curricula pay increasingly less attention to its training, thus blurring the border between pathology and variants of the “normal” further” (Schultze-Lutter et al., 2018).

Cognitive Behavioral Therapy for Psychosis (CBTp) is recognized as an empirically validated method that has been shown to improve symptom control and functionality in individuals suffering from psychotic disorders. CBTp aims to enhance coping strategies for dealing with difficult symptoms and experiences, such as hallucinations, negative symptoms, cognitive impairments, and delusions (Landa, 2017). The development of CBTp can be attributed to Dr. Aaron Beck, an American psychiatrist renowned for founding Cognitive Behavioral Therapy. Beck's initial application of CBT in the outpatient treatment of patients with chronic schizophrenia and delusions in 1952 represents the inaugural use of CBT in psychosis (Beck, 1976).

Although the mechanisms of action are unclear but according to Drake (2020) researchers have explored:

- Cognitive processes can be improved by modifying unhelpful thinking patterns, correcting inaccuracies in thought, shifting the focus of attention, and fostering constructive coping strategies.
- Behavioral adjustments can be enhanced by familiarizing oneself with and subsequently diminishing unhelpful behaviors, through the process of habituation, the cessation of such behaviors, engagement in positive activities, learning through association, and encouraging beneficial behaviors.
- Physiologically, a reduction in excessive arousal can be achieved through repeated exposure to stressors, training in responses that counteract stress, and alterations in the activity of the autonomic nervous system (K. Drake et al., 2020).

Cognitive Behavioral Therapy (CBT) typically involves 10 to 20 weekly sessions, each lasting about an hour, which can be conducted on an individual basis, with family members, or within small group settings. Recently, there has been a rise in innovative approaches, including the use of Internet-based therapies and support through clinician-assisted computer programs (Lindenmayer, 2000).

David (2018) outlines that Cognitive Behavioral Therapy (CBT) encompasses an array of therapeutic techniques, such as:

- Psychoeducation: Equipping patients with knowledge to better comprehend mental health conditions.
- Cognitive restructuring: The process of identifying negative thoughts, challenging their validity, and substituting them with more adaptive and realistic alternatives.
- Exposure therapy: Aiming to decrease avoidance behaviors that reinforce anxiety through negative reinforcement, and promoting confrontational behaviors towards fears.

- Behavioral activation: Encouraging participation in activities that are either enjoyable or beneficial (for example, exercising), and leaning on social support networks.
- Relaxation methods: Acquiring and applying strategies to reduce physiological excitement, encompassing practices such as deep breathing exercises, guided visualization, progressive muscle relaxation, and concentration on immediate sensory experiences.
- Homework assignments: Engaging in practices outside of therapy sessions to enhance the learning and application of coping strategies.

Relapse prevention: Accepting minor setbacks as part of the process and devising strategies for coping with potential future stressors or symptoms by continuing to apply CBT techniques and creating proactive coping strategies. CBT has evolved to light the specific requirements of persons with particular mental health diagnoses, allowing for tailored treatment approaches (David et al., 2018).

## **1.1 Theoretical Models of Psychosis and CBTp**

### **1.1.1 The ABC cognition model**

Beck asserts that CBT is effective through a collaborative process of identifying significant problems, examining one's habitual thought patterns about these problems, analyzing behavioral responses, and evaluating the helpfulness and realism of these thoughts and behaviors. The approach involves considering alternative, more beneficial ways of thinking and acting, experimenting with these new approaches, and adopting the strategies that prove to be effective. CBT is grounded in the principle that a person's emotional responses are shaped by their interpretation of events, as outlined in Beck's Model of Emotional Difficulties. This cognitive process is encapsulated in the ABC acronym, where:

- A represents an activating event, which is any distinct and observable experience.
- B denotes the beliefs about the event, encompassing both immediate thoughts and deeper beliefs.

- C refers to the consequences, including emotional and behavioral responses that stem from these beliefs. Integral to this model are core beliefs, which are deep-seated perceptions about oneself and the world. These core beliefs can influence the thoughts and beliefs triggered by an activating event, further affecting the individual's emotional and behavioral responses (Beck, 1976).

### **1.1.2 The Stress-Vulnerability Model**

It is introduced by Zubin & Spring in 1977, forms a fundamental principle of the (CBTp. This model elucidates the interplay between stress levels and the manifestation of symptoms, and it aims to demystify unusual experiences by demonstrating that people, when subjected to varying degrees of stress, can exhibit such phenomena. According to this model, there exists a reciprocal relationship between stress and an individual's susceptibility to psychotic experiences. In essence, individuals more sensitive to certain stressors are at a higher risk of experiencing psychotic symptoms. This model comprehensively considers the role of biological factors, life stressors, pivotal childhood events, environmental influences, cognitive aspects, and deficits in reasoning and attribution. These elements together may precipitate psychotic episodes. Additionally, psychotic episodes can escalate stress levels, thus perpetuating a detrimental cycle where symptoms and stress exacerbate each other. Therefore, the primary objective of CBTp is to alleviate the distress associated with psychotic symptoms by altering the patients' perceptions and beliefs regarding the symptoms' nature and implications (Zubin & Spring, 1977).

In CBTp, “the therapeutic journey is envisioned as a sequence of critical steps designed to alleviate the patient's symptoms and impairments by transforming their beliefs regarding these symptoms as a result we can break the ongoing cycle where symptoms and stress exacerbate each other reaching recovery” (Landa, 2017).

### **1.2 Problem statement**

Schizophrenia carries considerable personal, social, and financial burdens, with an especially alarming impact on mortality (Olfson et al., 2015). Research has highlighted the stark reality that individuals diagnosed with schizophrenia tend to “have their lives shortened by an average of 14.5 years compared to those without the condition”

(Hjorthøj et al., 2017). Further studies corroborate this finding, indicating a reduced life expectancy of 13 to 15 years for those affected by schizophrenia (Ali et al., 2023).

Despite the effectiveness of antipsychotic medications, a significant fraction of patients—ranging from 10% to 60%—do not fully respond to these treatments, particularly concerning the persistence of positive symptoms (Butler et al., 2006). Approximately one-third of individuals diagnosed with schizophrenia exhibit inadequate responses to conventional antipsychotic treatment (Samara et al., 2019). Treatment-resistant schizophrenia is characterized by insufficient symptom reduction (less than 20%) despite undergoing treatment with at least two different antipsychotics, each at an appropriate dosage for a minimum of four weeks (Kane et al., 1988). This substantial challenge posed by medication-resistant symptoms has prompted clinicians and researchers to advocate for the exploration and development of supplementary therapeutic strategies. These strategies aim to bolster the efficacy of pharmacological treatments and enhance overall patient outcomes, with a particular focus on various psychotherapeutic interventions (Haddock et al., 1998).

By the mid-1980s, the consensus among researchers and practitioners focusing on schizophrenia was that large-scale studies had demonstrated minimal to no effectiveness of supportive or psychodynamic psychotherapy in managing the condition and its associated symptoms. However, the body of research dedicated to the benefits of the CBT for addressing the positive symptoms of schizophrenia, which emerged during the same timeframe and continues to be explored, has not reached the same level of widespread recognition (Gunderson et al., 1984).

Originally, CBT was developed to treat neurotic disorders, such as anxiety and depression, and its success in these areas is now firmly established. The foundational premise of CBT, regardless of the specific disorder it is applied to, is that both the emergence and persistence of symptoms or issues are influenced by cognitive and environmental factors. These factors can be altered through the introduction of more adaptive cognitive and behavioral strategies. The theoretical frameworks underpinning CBT's application vary in their level of development across different disorders, indicating that the approach is more thoroughly conceptualized and applied in some areas compared to others (Haddock et al., 1998).

Historically, it was believed that psychotic symptoms associated with schizophrenia spectrum disorders were impervious to psychotherapeutic interventions (Mueser & Berenbaum, 1990). However, in light of findings from various reviews and meta-analyses conducted in the following decade recently, CBT has been endorsed as a viable psychosocial intervention for individuals experiencing enduring psychotic symptoms (Dickerson, 2004; Gaudiano, 2005; Jones et al., 2012; Pilling et al., 2002; Pfammatter et al., 2006; Rathod et al., 2008; Rector & Beck, 2012; Wykes et al., 2008; Zimmermann et al., 2005).

Therefore, this study is considered an important study because it will help us to understand the importance of psychotherapy in the treatment of hallucinations and delusions as this will enable us to intervene with the appropriate interventions and enhance recovery from mental illness in Palestine.

### **1.3 Significance of the Study**

This research represents the first exploration within Palestine into the efficacy of CBT in managing hallucinations and delusions among individuals diagnosed with schizophrenia. It aims to identify protective factors that are associated with significant improvements and reduced anxiety levels linked to these symptoms. Furthermore, the study will facilitate the forecasting of progressive treatment strategies for psychosis in schizophrenia patients, ultimately assisting them in achieving recovery. In order to accomplish these results our policy makers must consider providing CBT training programs for mental health institutions nurses in addition to establish centers that provides CBT by qualified and trained personnels and lastly to provide us community mental health nurses opportunities to work on our job description including more efficient services for mental health patients and the resources necessary for enduring further research.

### **1.4 Research Objectives**

1. To assess the effectiveness of CBT on treatment of hallucinations and delusions among schizophrenia patients.
2. To determine if CBT contributes to lower levels of anxiety related to hallucinations and delusions compared to control group who received standardized treatment.

3. To determine if there is any significant difference between standardized treatment and treatment with CBT among patients with schizophrenia.
4. To determine the contributing factors affecting treatment outcomes.

### **1.5 Research Questions**

1. Is CBT effective in the treatment of hallucinations and delusions?
2. Does the addition of CBT to the treatment of psychosis contribute to lower levels of anxiety and stress related to hallucinations and delusions contributing to improve quality of life?
3. Are there any statistically significant differences in the improvement of schizophrenia severity score among patients who are given treatment as usual alone and patients who are given both CBT and treatment as usual?
4. Are there any statistically significant differences in the levels of improvement of CBT with other independent variables including demographic variables?

### **1.6 Research Hypothesis**

1. Using CBT is effective in treating hallucinations and delusions among patients with schizophrenia at a significance level of 0.05.
2. There is a relationship between the type of treatment and levels of anxiety related to hallucinations and delusions among patients with schizophrenia at a significance level of 0.05.
3. There are statistically significant differences in patients' improvement, who are given standardized treatment and those who are given both CBT and treatment as usual, at a significance level of 0.05.
4. There are no statistically significant differences in the levels of improvement with demographic variables at a significance level of 0.05.

Historically, the perception of delusional beliefs has been distinct from that of normal beliefs, with challenging such beliefs considered futile and potentially harmful. Consequently, cognitive interventions were deemed inappropriate. However, a recent shift in

perspective has positioned delusional beliefs along a continuum with normal beliefs. This shift is supported by various evidence, including the relatively high prevalence of irrational or paranormal beliefs in nonpsychotic individuals, fluctuations in the intensity of delusional beliefs over time, and findings indicating that cognitive approaches can alleviate delusional conviction and distress (Gather et al., 2004).

An examination focusing on the utility of the CBT as a supplementary approach for individuals with treatment-resistant schizophrenia (TRS) in various research cohorts found that, among eight qualified studies, five reported statistically meaningful success of CBT in diminishing positive psychotic symptoms in TRS. Additionally, findings suggest that to maintain these improvements, a follow-up duration of no less than six months after CBT application may be necessary. Thus, CBT is affirmed to be a secure and potent additional therapy for those battling this condition. As a result, it is advised that nurses in psychiatric units, emergency departments, and those involved in home health or community-based care receive CBT training (Ryan et al., 2022).

Numerous scholars have tailored the principles of the CBT expressly for persons diagnosed with schizophrenia, with a focus mainly on enduring positive symptoms. Typically, these methods aid individuals in contextualizing their symptoms, positioning their psychotic experiences within the broader range of non-psychotic phenomena, and investigating the roots of their hallucinations (Nucifora et al., 2019).

In a comprehensive review of a collection of meta-analysis and randomized controlled trials investigating family intervention models designed to prevent relapse in schizophrenia patients, including those incorporating CBT, were examined. The findings of the review revealed that all interventions, except crisis-oriented interventions and family psychoeducation comprising two sessions or fewer, significantly decreased the relapse rate compared to standard treatment at the primary 12-month timepoint (Rodolico et al., 2022).

In previous meta-analyses, psychotherapies, particularly the CBT and interpersonal psychotherapy, have emerged as the foremost interventions when compared to psychological controls. Their effectiveness in treating various youth problems such as anxiety, attention deficit hyperactivity disorder, and conduct-related issues has been documented, albeit with modest mean effects after treatment (Zhou et al., 2020).

Research has identified specific brain sections, such as the dorsolateral prefrontal cortex and insula, as key predictors of CBT's success in managing panic disorders, indicating that enhanced activation in these areas during threat processing correlates with better treatment outcomes (Trkulja & Barić, 2021). Furthermore, early shifts in neural markers of anxiety have been observed during CBT, suggesting that these initial changes may underpin the therapeutic benefits seen in clinical practice (Reinecke et al., 2018).

A randomized trial that provided the CBT to alleviate insomnia among a group of more than 3,000 university students concurrently observed a decrease in the occurrence of paranoid delusions and hallucinations in participants who experienced an improvement in their insomnia symptoms (Freeman et al., 2017).

A significant study involving over 3,000 university students revealed that CBT aimed at reducing insomnia also inadvertently decreased the incidence of paranoid delusions and hallucinations among participants (Freeman et al., 2017). For individuals with schizophrenia, cognitive-behavioral therapy targeting psychosis symptoms (CBTp) has been proposed as a beneficial supplementary treatment to medication. While individual CBT sessions have been standard, the exploration of group-based CBT has shown comparable effectiveness in improving overall mental state and functioning, offering a potentially more cost-effective option (Guaiana et al., 2022).

A randomized controlled trial assessing the impact of the CBT on psychotic symptoms was carried out in outpatient and inpatient mental health facilities across Mid-Norway. The trial included 45 patients. Findings indicated that 20 CBT sessions were markedly more effective than waiting list controls in improving the overall score on the Brief Psychiatric Rating Scale (BPRS), the delusions measure on the Psychotic Symptom Rating Scales (PSYRATS), and the Global Assessment of Functioning (GAF) symptom score upon conclusion of treatment. At the 12-month follow-up, only the GAF symptom score continued to show significant improvement across the entire sample. The research demonstrated that CBT administered by non-specialists in standard clinical environments can enhance positive psychotic symptoms, with some of these improvements persisting at the one-year follow-up. (Kråkvik et al., 2013). Another trial in the UK focused on schizophrenia patients resistant to clozapine, revealing that CBT, while not yielding long-term symptom relief, did result in statistically

significant, albeit clinically modest, improvements by treatment end without adverse effects (Morrison ClinPsyD et al., 2018).

Exploring early-stage schizophrenia, a study found that CBT facilitated a quicker remission of symptoms compared to routine care, though this advantage did not persist into later stages (Lewis et al., 2002). The impact of CBT on anxiety-related psychotic symptoms was also analyzed, showing a medium to small significant effect post-treatment (Heavens et al., 2019).

A trial comparing CBT to supportive psychotherapy for medication-resistant psychotic symptoms underscored CBT's modest but significant superiority in symptom improvement. This suggests CBT, even when delivered by clinical nurse specialists, could be an effective adjunct therapy for chronic psychosis (Durham et al., 2003). Additionally, CBT's potential benefits for schizophrenia symptoms unresponsive to clozapine have been highlighted, advocating for its consideration given the minimal associated risks and lack of alternative treatments (Todorovic et al., 2020).

The advent of computerized CBT techniques, including Avatar therapy, has shown promising results in reducing the severity of auditory hallucinations, with some participants experiencing complete cessation of these voices (Leff et al., 2014). The incorporation of digital technology into Cognitive Behavioral Therapy (CBT) practices has significantly broadened the therapy's reach and utility, facilitating its deployment as a low-intensity resource for individuals with subclinical symptoms, an intermediary measure in stepped-care strategies, and an economical alternative for preventative initiatives (Biagianti et al., 2023).

Remote delivery of CBT has also been explored, showing comparable efficacy to traditional face-to-face sessions in treating symptoms of OCD, depression, and anxiety, thus offering a feasible solution to increase access to treatment (Salazar de Pablo et al., 2023).

## **Chapter Two**

### **Methodology**

#### **2.1 Study Design and Sampling Technique**

A quasi-experimental trial design was used for the purpose of this study. The study was conducted from January-March 2023. The study sample consisted of 20 participants who met the inclusion criteria and were registered at Hebron mental health clinic, patients were assigned into two groups:

- Control group: 10 patients continued to take treatment as usual.
- Cases group: 10 patients continued to take treatment as usual in addition to 10 sessions of CBT.

#### **2.2 Inclusion and exclusion criteria**

The selection criteria for the study include individuals aged between 16 to 30 years, in line with findings from the existing body of research that suggests a U-shaped trajectory in the progression of insight impairment. This pattern indicates severe insight impairment at the onset of the first psychosis episode, a modest improvement through midlife, and a subsequent decline in later years (Gerretsen et al., 2014), Participants should be diagnosed with schizophrenia and undergoing treatment. This stipulation is based on evidence indicating that an untreated psychosis duration exceeding one year correlates with less favorable outcomes (Harris et al., 2005). Additionally, candidates must not have intellectual disabilities, abstain from drug or alcohol use, and currently experience both hallucinations and delusions.

#### **2.3 Study Setting**

We selected all clients from Hebron mental health clinic which is the only psychiatric facility in Hebron to include clients from different representative areas of Hebron. It is a governmental institution with a multidisciplinary staff, including psychiatrists, psychologists, nurses and social workers. It provides mental health assessment for diagnosis of patients and regular pharmacological prescriptions and provides certain medications covered by health insurance. On the other hand, it doesn't provide any type of

psychotherapy, regular psych evaluation or home visits for their regular patients, mostly a family member of the patient comes to take their medication every month.

## **2.4 Study Instrument**

### **2.4.1 The Psychotic Symptom Rating Scales (PSYRATS)**

The Psychotic Symptom Rating Scales (PSYRATS) consist of structured interviews segmented into two parts, aimed at evaluating auditory hallucinations and delusions. The section on auditory hallucinations includes an 11-item scale crafted to assess different facets of hallucinations, including their frequency, duration, severity, the intensity of distress they cause, and more nuanced features such as their controllability and the individual's perceptions regarding the origins of the voices. This scale utilizes a five-point ordinal system for scoring symptoms, from 0 to 4. The selection of items was informed by extensive interviews with patients experiencing hallucinations and by insights from psychological interventions for psychotic patients. The delusions segment contains a six-item scale that evaluates the dimensions of delusions, drawing upon phenomenological research and psychological treatment practices. This section also employs a five-point ordinal scoring system (Haddock et al., 1999).

Overall, the PSYRATS, with its 17 items, provides a detailed quantification of the specific dimensions of hallucinations and delusions, using a scoring range from 0 (absent) to 4 (severe), facilitating a comprehensive symptom severity assessment (Cowie, 2015). A study investigating the PSYRATS' reliability, validity, and structural integrity involved 257 subjects with acute first episodes of schizophrenia or related disorders. Although the PSYRATS has been validated for use in patients with chronic psychosis, its application in first-episode patients required further examination. The study confirmed the PSYRATS' reliability and validity, including its sensitivity to change and its correlation with the PANSS, revealing two factors for delusions and three for hallucinations, thereby establishing its usefulness alongside existing measures of symptom severity (R. Drake et al., 2007b). In an Egyptian quasi-experimental study, the PSYRATS was utilized to “examine the effect of acceptance and commitment therapy on auditory hallucinations in schizophrenia patients”. An Arabic version of the PSYRATS was evaluated for its translation accuracy, content validity by a panel of experts, and test-retest reliability on a sample of fifteen patients,

yielding a significant correlation coefficient, thus affirming the scale's reliability for this study (R. Drake et al., 2007a).

A quasi-experimental research project conducted in Egypt examined the "Impact of Acceptance and Commitment Therapy on Auditory Hallucinations in Schizophrenia Patients," utilizing the Arabic version of the Psychotic Symptom Rating Scales (PSYRATS). The PSYRATS, specifically for auditory hallucinations (PSYRATS-AH), were translated into Arabic. This translation and its content validity were evaluated by a panel of five experts in psychiatric nursing, leading to necessary adjustments. To ensure reliability, a test-retest procedure was carried out with the PSYRATS-AH on fifteen schizophrenia patients, adhering to predetermined inclusion criteria.

The reliability analysis employed the nonparametric Cronbach's alpha, akin to the Pearson correlation coefficient, with a significance threshold set at  $p \leq 0.07$ . This procedure confirmed a noteworthy reliability coefficient of 0.70 for the Arabic PSYRATS, indicating a substantial consistency over time (El Ashry et al., 2021).

#### **2.4.2 Positive and Negative Syndrome Scale (PANSS)**

The Positive and Negative Syndrome Scale (PANSS) was created as a comprehensive 30-item rating tool, incorporating 18 items from the Brief Psychiatric Rating Scale (BPRS) and 12 from the Psychopathology Rating Schedule (PRS). Conducting a patient interview using the PANSS typically takes between 30 to 40 minutes, collecting data necessary to evaluate the patient's psychopathological state over the preceding week. The PANSS provides exhaustive definitions for each item, along with specific criteria for each of the seven scoring levels: "1 = absent, 2 = minimal, 3 = mild, 4 = moderate, 5 = moderate-severe, 6 = severe, and 7 = extreme". Within this 30-item framework, there are seven items dedicated to assessing positive symptoms, seven for negative symptoms, and sixteen for general psychopathology. The scoring scale from 2 to 7 denotes progressively increasing intensity of symptoms (Kay et al., 1988).

Being classified as "mildly ill" is roughly equivalent to a total PANSS score of 58, while a score of 75 indicates being "moderately ill," a score of 95 suggests being "markedly ill," and a score of 116 denotes being "severely ill." In terms of the Clinical Global Impressions (CGI) scale, being considered "minimally improved" correlates with an average PANSS

reduction of 19%, with further increments of improvement at 23%, 26%, and 28% respectively (Leucht et al., 2005).

A research project conducted in Qatar evaluated the accuracy and dependability of the Arabic adaptation of the PANSS.

This version was crafted using a meticulous back-translation process into formal Arabic. The study recruited 101 Arab individuals diagnosed with schizophrenia, alongside 98 Arabs without any mental health diagnoses, serving as controls.

Diagnoses were verified or excluded using the Arabic rendition of the Mini International Neuropsychiatric Interview (MINI-6). The study's focus was on determining the reliability of the PANSS.

Furthermore, the construct validity of the PANSS was examined by aligning its total scores with those from the Clinical Global Impression-Severity scale, utilizing the MINI-6 as a comparative benchmark. The results demonstrated robust internal consistency (0.92) for the PANSS, with patient scores significantly surpassing those of the control group, indicating the scale's sensitivity. Both inter-rater and test-retest reliabilities were found to be high (0.92 and 0.75, respectively), underscoring the tool's reliability over time and across different assessors. The PANSS's strong sensitivity and specificity, when compared to the MINI-6, highlighted its valid construct in this context. Ultimately, this study affirmed the Arabic version of the PANSS as a trustworthy and valid tool for evaluating schizophrenia within the Arab demographic (Yehya et al., 2016).

## **2.5 Procedure**

The objectives of the CBT for psychosis encompass diminishing the frequency of symptoms, alleviating related distress, and minimizing the impact on the individual's daily functioning and overall quality of life. Within this framework, the cognitive aspects of CBT for psychosis are designed to equip individuals diagnosed with schizophrenia with the skills to recognize and observe their thoughts and beliefs in given situations. Furthermore, it aims to guide these individuals in assessing and adjusting their thoughts and beliefs in light of objective external evidence and real-life contexts (Hagen et al., 2013).

To achieve this objective, the PSYRATS and the PANSS were employed by the student researcher only pre and post intervention as the mental health clinic team didn't have time to assist the researcher, and the supervisor had full time lectures in the University which is very destined but he was continuously following up with the student on daily basis.

Both of the used tools have been validated for their reliability and accuracy within the Arabic population. These tools can be effectively utilized in both Arabic and English, yielding consistent results. The English version was chosen with an objective rating by the researcher according to the assessment.

Anxiety levels were gauged using the initial and final interviews through specific sections of the PSYRATS scale: Section 8 (amount of distress) and Section 9 (intensity of distress) for auditory hallucinations, and Sections 4 (amount of distress) and 5 (intensity of distress) for delusions, as detailed in Appendix D. Additionally, the general psychopathology scale items G2 (anxiety) and G4 (tension) of the PANSS rating scale were used to measure anxiety levels, as outlined in Appendix E. During the sessions, stress levels were reassessed, and adjustments were made to enhance stress coping strategies.

Structured interviews based on these scales were conducted in the first session for assessment, followed by nine CBT sessions as per the guidelines for the CBTp, detailed in an introductory manual for clinicians. These sessions were overseen by Dr. Adnan Sarhan, a mental health specialist with a CBT certification. Consent was obtained to explain the study's purpose from the spouses of clients lacking insight and directly from the clients themselves when insight was present. These sessions took place from January to March 2023 at the Hebron psychiatric health clinic, which was accessible to the clients.

However, the final three sessions for clients (J.N., I.A., A.N., F.W., A.H., H.A.) were conducted at their homes due to their inability to travel to the clinic. Each session lasted approximately 45 minutes, occurring twice weekly for each client by the student researcher who was trained and supervised by Dr. Adnan Sarhan.

Maintaining the structured framework of CBTp in each session was vital for several reasons: it enhanced predictability, reducing anxiety; it fostered greater patient engagement and involvement in their treatment; it supported the exercise of memory and metacognitive skills; and it provided a model for functional behavior.

Below is the CBTp session structure I adhered to in my research, according to Landa (2017):

At the beginning of each session, the client and I would:

- Conduct a mental health assessment.
- Assess symptom severity.
- Establish the session agenda.
- Determine the order of topics for discussion.

During the session, I would:

- Review any homework assignments (if applicable).
- Monitor progress and manage transitions throughout the session.
- Connect the topics discussed to those from previous sessions and the overall treatment agenda.

In the final minutes of the session, we would:

- Summarize the topics discussed.
- Plan for the next session.
- Solicit the patient's feedback on the session (identifying what was helpful and what was not) to encourage their active participation in the treatment process.
- Perform a final mental health status assessment.
- Review and assign homework for completion before the next session.

From the onset of the CBTp engagement stage, which persisted throughout the therapeutic process, I focused on developing rapport with the patient, enhancing their trust and openness, and encouraging them to participate in CBT sessions (Landa, 2017).

Upon gathering the data, it was securely stored in a locker accessible solely by the researcher to ensure confidentiality and security. Avasthi (2020) emphasizes that establishing a robust therapeutic alliance is crucial in cognitive-behavioral therapy for psychosis (CBTp),

particularly because individuals experiencing psychosis may not be accustomed to discussing their experiences in a therapeutic setting. A reliable and trustworthy therapeutic relationship serves as a pivotal element in motivating the patient to engage with the CBTp process. Therefore, I adopted a supportive and understanding approach, while consciously avoiding confrontation or attempts to rationalize the clients' delusional or hallucinatory experiences during the early sessions.

It was observed that some clients chose to remain silent during the initial session, a situation I approached with acceptance without pressuring them to speak. Despite encountering behaviors or attitudes from clients that could be perceived as unusual or amusing, I preserved my professionalism, refraining from any form of ridicule. Efforts were made to bolster the patients' self-esteem through various means, including encouragement of personal grooming, adherence to activities and instructions mutually agreed upon, acknowledgment of positive achievements or significant life events, and reinforcement of their strengths. Importantly, I refrained from making any unrealistic promises, recognizing that such actions could undermine the therapeutic alliance.

Researcher used the following techniques according to Landa (2017):

### **2.5.1 Engagement**

All possible efforts were made to gain the trust of the clients throughout all the sessions. The approach involved:

- Eliciting and exploring the clients' perceived available options for action.
- Suggesting additional options for action that the clients might not have considered, while allowing them the autonomy to make their own decisions.
- Discussing the clients' views on the positive and negative aspects of these options.
- Highlighting potential benefits and drawbacks of the options that the clients may have overlooked.
- Identifying any discrepancies between the client's current or planned behavior and their broader values and goals.

- Emphasizing and reinforcing adaptive attitudes and behaviors by selectively reflecting, summarizing, and encouraging the client to elaborate on their adaptive attitudes. This could include the use of paradoxical interventions or role changes, such as asking the client to take on the role of the therapist.
- The aim is to normalize experiences to prevent catastrophic or stigmatizing thoughts regarding mental health. It is important to acknowledge that psychotic experiences can be shared by individuals who are not ill and are part of a continuum with normal experience.

This phase aims to empower clients with the confidence that they have the necessary skills for improved engagement in social and community activities. Through practicing new skills within a group environment and strategizing their application in real-life situations, clients build self-assurance and are motivated to participate in activities they once shunned. Integrating conversations about confidence, the dynamics of avoidance, and techniques for surmounting these challenges into programs focused on recovery may assist those with schizophrenia in enhancing their interpersonal and social capabilities (Bennett et al., 2023).

### **2.5.2 Assessing Psychotic Experiences**

In the second sessions conducted for eight clients, I assessed psychotic features using our study instruments in addition to comprehensive exploration of each psychotic symptom, covering aspects such as form, content, frequency, duration, typical conditions of occurrence, consequences, impact, attributed meaning, conviction in this meaning, quality, intensity, distress, and preoccupation. Following this, I filled the rating scores for the PANSS and PSYRATS scales to each client. Two clients (client A.I, client J.N) remained silent during the first session, prompting me to extend the engagement phase into the second session. Their assessments were then conducted in the third session, after establishing a rapport.

### **2.5.3 Recognizing Problems**

During the third and fourth sessions, in accordance with CBTp guidelines, we identified problems through various activities, ensuring the clients took the lead in the therapeutic process and maintained a collaborative approach to discussing issues:

- Emphasizing the stress experienced by clients as a means to foster further discussion and exploration.
- Normalizing and validating specific experiences to create a safe environment for clients to discuss issues without fear of judgment. I showed empathy when clients discussed difficulties in their lives and past events they believed influenced their thought patterns.
- Comparing the clients' perspectives with those of significant individuals in their lives and examining possible reasons for any discrepancies. I communicated with my clients' relatives to differentiate reality from delusions. Clients J.N, A.I, G.N, F.W, and A.H exhibited persecutory delusions towards family members.
- Indicating that some experiences reported by the clients or certain behaviors observed or reported to the therapist might be seen as problems requiring solutions.
- Pointing out contradictions between the clients' denial of problems and other statements or actions, for instance, although all clients denied having a psychiatric illness, they acknowledged feeling better when taking their medication or during hospitalization. Thus, we addressed the stigma issue contributing to their denial of schizophrenia.

Our objective was to empower clients, reduce stress during discussions of stressful situations, and help them recognize issues they could address after learning new coping mechanisms and problem-solving techniques in the psychiatric hospital.

After determining a list of problems for each client, we collaboratively established short-term goals, including identifying stressful situations as they arise, recognizing emotions, enhancing self-care behaviors, improving social relationships, boosting self-esteem, concentrating on strengths, and pinpointing triggers for hallucinations and delusions. Long-term goals focused on learning to accept past traumatic experiences, enhancing social engagement, developing insight towards their illness and treatment, understanding their hallucinations and delusions, and adopting a realistic perception of the world, alongside other objectives tailored to each client's specific issues.

#### **2.5.4 Interventions**

From the fourth to the eighth session, interventions were chosen and implemented for each client based on their individual goals and case formulations. Having established rapport and trust in the earlier sessions, we began to introduce a variety of intervention strategies. These included collaborating with clients to identify and mitigate triggers, aiding them in gathering evidence to support or refute their beliefs, setting up reality testing and behavioral experiments, educating them on cognitive distortions, teaching reasoning skills, and addressing core beliefs and automatic thoughts.

During these intervention sessions, I maintained flexibility and also supported clients with tasks unrelated to therapy that contributed to broader objectives and improved their quality of life. This assistance ranged from helping with job applications (for A.I.), university applications (for A.N.), to enhancing resumes, and encouraging family support by talking to family members alone after the sessions to inform them of the progress and patients willing and goals to facilitate their achievements of goals including: work, academic pursuits, or community engagement.

My overarching role in CBTp was to foster a therapeutic alliance, allowing clients to steer the process, define treatment goals, encourage the completion of homework, provide structure, understand the clients' beliefs, safeguard and boost self-esteem, and guide clients toward discovering their most effective coping strategies. Concurrently, I refrained from imposing my perspective, adopting an overly authoritative stance, trivializing the client's experiences, or being interpretive or inconsistent. Additionally, we engaged in role-playing during sessions to aid clients in practicing new coping mechanisms and re-engaging with the community.

After outlining general intervention strategies for all clients, I began addressing delusions, followed by hallucinations, tailoring the approach to each client's specific psychotic experiences in accordance with CBTp guidelines (2017), as I will detail.

##### **A. Working with Delusions**

After conducting a detailed assessment of beliefs using the PANSS and PSYRATS scales applied in the previous session, we gained a comprehensive understanding of the client's belief structure. Subsequently, a formulation was collaboratively developed with the client.

We balanced the reasons for adopting the belief against the reasons for maintaining it, which proved beneficial in establishing a foundation from which we could challenge the faulty belief.

### **Re-evaluating beliefs**

Delusion often arises as a response to perplexing or alarming situations, leading individuals to seek understanding in moments of fear, anxiety, or confusion. Providing alternative interpretations can alleviate these emotional states. Therefore, it became crucial to assist individuals in re-examining the evidence they had brought forward, beginning with the justification for their delusional thoughts on a daily basis.

Offering different perspectives on the clients' beliefs, while carefully highlighting any inconsistencies and logical errors in their belief system, proved beneficial. These alternate explanations were either introduced by me or derived from discussions with the clients in earlier sessions.

Through this joint effort, clients were prompted to evaluate their delusional convictions and other possible explanations against the backdrop of the evidence at hand.

### **Reality testing**

The client was stimulated to engage in specific behaviors to test the validity of their belief. They were prompted “to make predictions about external events so that the outcomes of these events could serve as tests of those predictions”. Together with the client, researcher developed an experiment. researcher used the "3 Cs" to teach clients to start practicing reality testing independently (Landa, 2017):

### **Catch It**

- What is the spontaneous thought?
- What was the patient thinking in their mind?
- Is this thought helping the client to achieve his goal?

### **Check It**

- How did it affect the patient's feelings or actions?
- What evidence supports or contradicts this thought?
- What would the patient say to a friend who had this thought?
- Is this thought a result of cognitive distortion (e.g., jumping to conclusions; black-and-white thinking)?

### **Change It**

- What is an alternative perspective or possibility?
- Is there another way to think about this situation?
- Does adopting a new thought help the patient to achieve his goal?

None of my clients could prove that their evidence was true so we made a reality check list and we made an agreement that they will apply it when they are stressed, angry or frightened about an idea and that they will not assume certain explanations for events instead they will focus on their strength points and practice new coping mechanism that we learned, also we agreed on a homework that they will right any disturbing idea, in case they couldn't test it by our reality checklist they will ask for help from a trusted person in their house or me in the next session when we review this homework, also they will right situations in which they felt happy, anxious, sad and frightened and what they thought during these situations.

### **Verbal Challenges of Delusions**

The investigator approached the task of questioning clients' delusions with a gentle and non-threatening demeanor. By subtly highlighting the discrepancies within the clients' belief frameworks, the researcher subsequently prompted the consideration of different interpretations of the evidence. When appropriate, the researcher also softly proposed alternative viewpoints. Clients were then motivated to compare their delusional perceptions with these alternative perspectives, considering the evidence available.

## **Normalizing Cognitive Processes**

To help clients comprehend and address delusions, the researcher explained that a delusion typically stems from an attempt to make sense of confusing or intimidating experiences, such as hearing voices or feeling panicked.

Thus, the researcher portrayed the delusion as an understandable effort to impose meaning in times of fear or anxiety, noting its initial role in reducing confusion and alleviating fear. The goal was to transition from this unhelpful coping strategy to a more adaptive method of handling these experiences.

## **B. Working with Hallucinations**

Our aim was “to work with distress caused by voices by exploring beliefs about the voices. Voices themselves do not cause distress. Rather, the presence of voices influences beliefs regarding the voices, which in turn cause distress” (Chadwick, 2008).

After using our assessment tools (PANNS and PSYRATS) to understand the nature of hallucinations, 6 of my clients were having only auditory hallucinations and the other 4 were having auditory and visual hallucinations. Utilizing Beck’s ABC model of cognition (1976), researcher started with “the consequence (C), then worked back to activating event (A), then explored the belief (B)”. During this process, the following was considered when working with hallucinations, me and the clients collaborate to:

- Gently challenge beliefs about voices.
- Establish the identity of voices and visions (malevolent or benevolent).
- Understand the power of voices.
- Learn how to control the voices.
- Recognize resistance or compliance to the voices.
- Uncover the origins of the voices.

One way to do this is through reality testing (e.g., I asked if others can hear them and I asked the clients to tape record the voices or filming the visions).

I used these aspects of the therapeutic process in working with hallucinations:

### **Introduce normalizing alternatives**

I conveyed the message that experiencing hallucinations is compatible with leading a normal, productive, and happy life. Additionally, I mentioned famous and successful individuals, including some actresses and singers, to inspire hope and provide reassurance about the clients' future well-being and recovery.

### **The goal was to assist in the appropriate attribution of hallucinations**

All my clients demonstrated that assessed hallucinations were associated with anxiety or a depressed mood. Therefore, techniques for managing anxiety and depression were employed to target associated symptoms first.

### **Examine the content of voices / visions**

The researcher gathered contextual evidence to explore the beliefs, fears, and meanings underlying the hallucinations. For example, my clients G.A.N, G.S.N, and H.A all heard voices with negative content about their appearance, which was attributed to their low self-esteem. My clients F.W, A.H, and N.S experienced erotomanic delusions, attributed to a lack of love and their experiences of divorce. My client A.I also had erotomanic delusions, but these were linked to his experiences of loss and trauma. G.S.N, T.H, A.H, and I.A experienced persecutory delusions, which were attributed to their sense of fear and lack of trust. G.A.N and H.A also had jealous delusions due to low self-esteem and feelings of unworthiness.

### **Enhance coping**

During intervention sessions, the clients and I worked to improve existing coping techniques and to discover new ones.

An example of the coping strategies for auditory hallucinations we had employ included self-monitoring, whereby clients were assigned homework to write diaries focusing on stress triggers and hallucination triggers, anxiety reliving techniques, and distraction techniques such as talk, listening to music, going for a walk, reading the Quran, or praying for religious

clients like I.A, H.A, and T.H. Another coping technique involved focusing on cognitive distortions—maladaptive beliefs about hallucinations—and attempting to respond to hallucinations rationally. Clients also worked on dismissing negative voice content by confronting it and listing evidence for and against the content of the hallucination. This intervention, when practiced for ten minutes daily, has been shown to decrease distress among 8 of my clients. Other aspects of focusing include reminding oneself that the voices or visions are not perceived by others and allocating a ten-minute daily time slot for the hallucinations.

In each session, I reassessed and made changes to the intervention based on the level of improvement. Two of my clients (N.S and J.S.N) were in a stupor, and coping techniques were ineffective because the voices had clear meaning, represented a long-standing relationship, and the hallucinations possessed malevolent power.

### **C. Relapse Work and termination**

In the ninth and tenth sessions, we initiated relapse work to ensure that the client feels confident in their ability to use skills and techniques to manage psychotic symptoms. I began by assessing previous relapses, which involved the following considerations:

- What is the form, content and duration of the previous relapses?
- What are antecedents of the previous relapse?
- What is the client 's appraisal of this experience?
- What is the impact of previous relapse?

Additionally, I assessed for early warning signs and triggering events for relapse, introducing examples

- What events led to it?
- How and to what extent was the client able to control himself during the relapse?
- Are there any aspects of the relapse that client finds exciting or rewarding (some of my clients enjoyed the sensation of finding the world 's answers (A.I), beautiful hallucinations (N.S), get attention from family (F.W, A.H, G.N))?

Finally, I assessed the client's relapse cognitions to develop a relapse prevention plan. The plan is based on the client's understanding of the relapse process, as well as their thoughts, assumptions, and beliefs about relapse.

Our objective was to create a mutual psychological comprehension of the client's pattern of relapse. Following the evaluation of relapse risk and the creation of a conceptual framework, we formulated personalized strategies for preventing relapse, rooted in this framework. Techniques from Cognitive Behavioral Therapy (CBT), acquired in earlier sessions, were employed to confront and reassess dysfunctional thinking related to relapse. We then reviewed the client's current use of self-regulatory strategies and made a plan for their continued use in the future. I also discussed with the client and their family how to monitor warning signs and predict a relapse. Finally, we addressed difficulties in implementing the plan and collaborated with the client to resolve any foreseeable problems.

Elements of CBT for Psychosis are included in Appendix F below.

## **2.6 Ethical considerations**

The Ethical considerations and the approval of the An-Najah Institutional Review Board (IRB) was insured before starting the research (Ref:Mas.Sep.2022\26), the Palestinian ministry of health and Hebron ministry of health permissions were obtained, and a permission from the spouse of the clients as they are incompetent due to their mental illness were obtained after providing an information sheet to explain the aim, the participants role in the study and issues of confidentiality and voluntary participation but their spouse refused voice recording of the sessions.

## **2.7 Data Analysis**

The collected data was analyzed by the Statistical Package for Social Sciences (SPSS) Version (28). Data entry was performed by the researcher and double-checked for outliers or errors. Data was tested for normality using the Kolmogorov-Smirnov test. the Kolmogorov-Smirnov test shown that the data is normally distributed ( $p > 0.05$ ).

Data analysis of descriptive and inferential statistics was conducted. Regarding descriptive statistics, frequency, percentages, mean score, Standard Deviation (SD) and Chi-square test were used to describe the study variables. Regarding inferential statistics, data was tested for normality, a parametric test including the independent t-

test was used to assess the effectiveness of CBT treatment in terms of the auditory hallucinations, distress, delusion, anxiety and schizophrenia severity scores.

## **Chapter Three**

### **Results**

#### **3.1 Introduction**

This chapter details the frequency and percentages of the demographic characteristics of the participants, as well as the differences between the two groups in terms of demographic variables. Furthermore, it evaluates the effectiveness of CBT treatment among participants concerning auditory hallucinations, delusions, and the severity scores of schizophrenia

#### **3.2 Demographic Characteristics of the participants**

Table 1 outlines the socio-demographic characteristics of participants in both groups. There were no significant differences between the experimental and control groups regarding demographic variables. The majority, two-thirds of participants in both groups, were aged between 15-29 years. In terms of gender, over two-thirds of the participants were female, constituting 75%, while males represented 25%. Concerning education, 60% of the participants had obtained a Bachelor's Degree, 35% had completed secondary school, and 5% had finished primary school. More than half of the participants reported a family history of psychiatric disorders. Employment status revealed that 80% of participants were unemployed, whereas 20% were employed. Regarding suicidal and homicidal potentials, 80% of participants did not exhibit such tendencies, while 20% did. Further details are provided in Table 1.

**Table 1***Socio-demographic characteristics of the participants (n=20)*

Socio-demographic Characteristic's	Experimental Group (n=10)		Control Group (n=10)		Total (n=20)		X <sup>2</sup> (df)	P-value
	n	%	N	%	n	%		
<b>Age Group</b>								
15-29 years old	7	70.0%	6	60.0%	13	65.0%	.220	0.639
30-44 years old	3	30.0%	4	40.0%	7	35.0%	(1)	
<b>Gender</b>								
Male	2	20.0%	3	30.0%	5	25.0%	.267	0.606
Female	8	80.0%	7	70.0%	15	75.0%	(1)	
<b>Place of Resident</b>								
Village	5	50.0%	3	30.0%	8	40.0%	.944	0.624
City	4	40.0%	5	50.0%	9	45.0%	(2)	
Camp	1	10.0%	2	20.0%	3	15.0%		
<b>Level of Education</b>								
Secondary school	5	50.0%	2	20.0%	7	35.0%		
Bachelor's Degree or higher	4	40.0%	8	80.0%	12	60.0%		
<b>Marital status</b>								
Married	5	50.0%	2	20.0%	7	35.0%	1.986	0.371
Single	3	30.0%	5	50.0%	8	40.0%	(2)	
Divorced or Widowed	2	20.0%	3	30.0%	5	25.0%		
<b>Past Medical History</b>								
Yes	0	0.0%	3	30.0%	3	15.0%	3.529	0.211
No	10	100%	7	70.0%	17	85.0%	(1)	
<b>Month Income</b>								
<400\$	6	60.0%	3	30.0%	9	45.0%	1.818	0.370
≥400\$	4	40.0%	7	70.0%	11	55.0%	(1)	
<b>Family History of Psychiatric disorder</b>								
Yes	5	50.0%	2	20.0%	7	35.0%	1.978	0.350
No	5	50.0%	8	80.0%	13	65.0%	(1)	
<b>Working Status</b>								
Employed	0	0.0%	4	40.0%	4	20.0%	5.00	0.087
Not Employed	10	100%	6	60.0%	16	80.0%	(1)	
<b>Addictive behavior and habits</b>								
Smoking Cigarette	4	40.0%	3	30.0%	7	35.0%	.220	0.639
None	6	60.0%	7	70.0%	13	65.0%	(1)	
Using drugs	0	0%	0	0%	0	0%		
Drinking alcohol	0	0%	0	0%	0	0%		
<b>Suicidal and homicidal potentials</b>								
Yes	0	0.0%	4	40.0%	4	20.0%	5.00	0.087
No	10	100%	6	60.0%	16	80.0%	(1)	

Chi-Square Test, \*Significant at p&lt;0.05

### **3.3 Effectiveness of CBT treatment on auditory hallucination and on the intensity and amount of distress in auditory hallucinations domain among participants**

Table 2 demonstrates the effectiveness of CBT treatment on auditory hallucinations, including the intensity and level of distress in the auditory hallucinations domain among participants, utilizing the independent t-test. There was no significant difference in the hallucinations sum score between the intervention group ( $M=30.60$ ,  $SD=2.836$ ) and the control group ( $M=31.90$ ,  $SD=5.933$ ) ( $t=-0.625$ ,  $p=0.540$ ) in the pre-test. However, for the post-test hallucinations sum score, a significant difference was observed between the intervention group ( $M=21$ ,  $SD=3.681$ ) and the control group ( $M=32.2$ ,  $SD=5.921$ ) ( $t=-5.079$ ,  $p<0.001$ ), indicating that participants who received CBT experienced a greater decrease in the auditory hallucinations sum score compared to those in the control group (Mean difference = 11.20).

Regarding the post-test amount of distress sum score, a significant difference was found between the intervention group ( $M=1.70$ ,  $SD=0.674$ ) and the control group ( $M=3.30$ ,  $SD=0.823$ ) ( $t=-4.753$ ,  $p<0.001$ ), suggesting that participants who received CBT showed a reduced amount of distress sum score compared to those in the control group (Mean difference = 1.60).

The data also reveals the effectiveness of CBT treatment on the intensity of distress within the auditory hallucinations domain, as analyzed through the independent t-test. A significant difference emerged between the intervention group ( $M=1.60$ ,  $SD=0.699$ ) and the control group ( $M=3.30$ ,  $SD=0.823$ ) ( $t=-4.977$ ,  $p<0.001$ ), indicating that CBT recipients exhibited a lower intensity of distress sum score compared to the control group participants (Mean difference = 1.70).

**Table 2**

*The Effectiveness of CBT treatment on Auditory hallucinations and on the intensity and amount of distress in auditory hallucinations domain among participants (n=20)*

		N	Mean	SD	Statistical values	Mean Different	P-value
Pre-test Auditory Hallucinations Sum Score	Interventional group	10	30.60	2.836	t=-.625 df=18	1.30	.540
	Control group	10	31.90	5.933			
Post-test Auditory Hallucinations Sum Score	Interventional group	10	21.00	3.681	t=-5.079 df=18	11.20	<.001*
	Control group	10	32.20	5.921			
Post-test amount of distress mean score	Interventional group	10	1.70	.674	t=-4.753 df=18	1.60	<.001*
	Control group	10	3.30	.823			
Post-test intensity of distress mean score	Interventional group	10	1.60	.699	t=-4.977 df=18	1.70	<.001*
	Control group	10	3.30	.823			

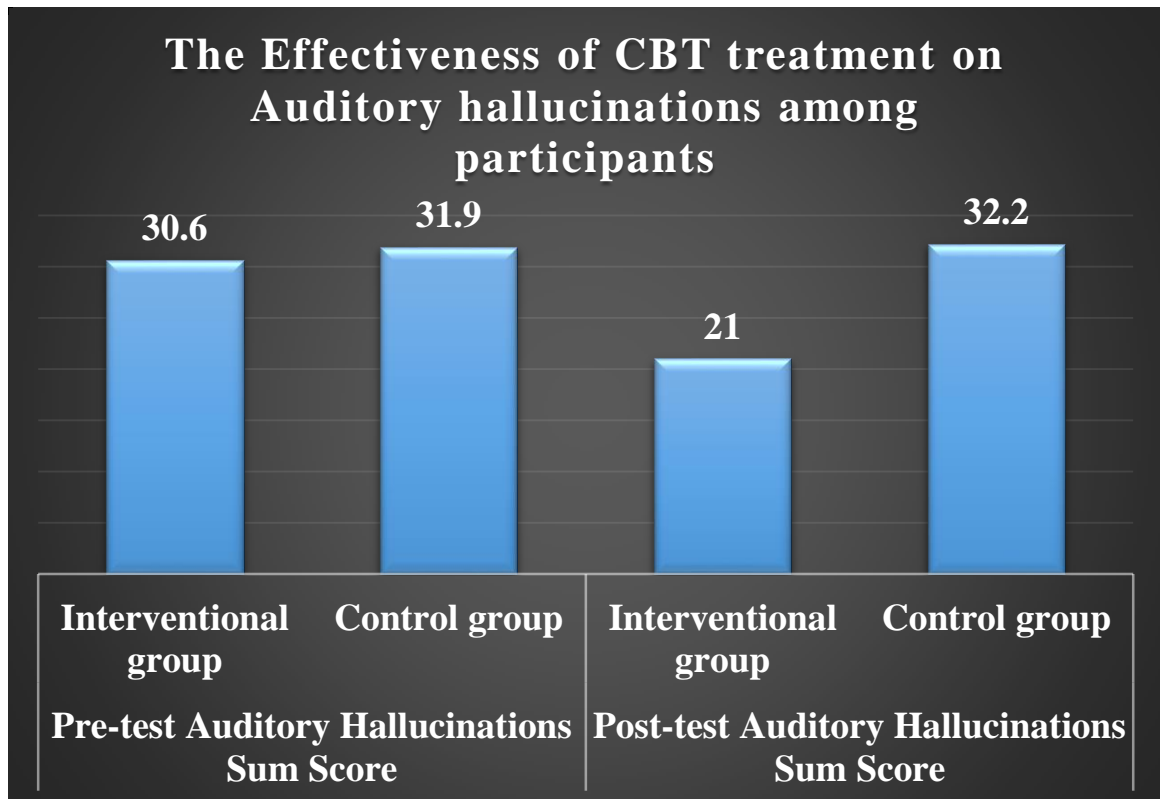
Independent t-test, Min score 0, Max score 44, higher mean score means higher Auditory Hallucination.

\*Significant at  $p < 0.05$ , Independent t-test, Min score 0, Max score 4, higher mean score means higher amount and intensity of distress,

\*Significant at  $p < 0.05$

**Figure 1**

*The Effectiveness of CBT treatment on Auditory hallucinations among participants (n=20)*



### **3.4 The effectiveness of CBT treatment on delusions and the amount and intensity of distress in delusion domain among participants**

Table 3 illustrates the effectiveness of CBT treatment on delusions and its impact on the amount and intensity of distress within the delusion domain among participants, as analyzed using the independent t-test.

Regarding the delusion pre-test sum score, there was no significant difference between the intervention group (M=19, SD=3.197) and the control group (M=18.5, SD=2.708) ( $t=0.368$ ,  $p=0.717$ ).

For the delusion post-test sum score, a significant difference was observed between the intervention group (M=13.7, SD=2.584) and the control group (M=19, SD=5.921) ( $t=-4.478$ ,  $p<0.001$ ), indicating that participants who received CBT exhibited a reduced delusion sum score compared to those in the control group (Mean difference = 5.30).

In terms of the amount of distress post-test sum score, a significant difference was found between the intervention group (M=2.20, SD=0.632) and the control group (M=3.30, SD=0.674) ( $t=-3.761$ ,  $p<0.001$ ), suggesting that participants who received CBT experienced a decreased amount of distress sum score in the delusion domain compared to those in the control group (Mean difference = 1.10).

Regarding the intensity of distress post-test sum score, a significant difference was noted between the intervention group (M=2, SD=0.471) and the control group (M=3.20, SD=0.918) ( $t=-3.674$ ,  $p=0.002$ ). This indicates that participants who received CBT demonstrated a reduced intensity of distress sum score in the delusion domain compared to those in the control group (Mean difference = 1.20).

**Table 3**

*The effectiveness of CBT treatment on delusions and the amount and intensity of distress in the delusion domain among participants (n=20)*

		N	Mean	SD	Statistical values	Men Different	P-value
Pre-test Delusion Sum Score	Interventional group	10	19.00	3.197	$t=.368$ $df=18$	0.50	.717
	Control group	10	18.50	2.877			
Post-test Delusion Sum Score	Interventional group	10	13.70	2.584	$t=-4.478$ $df=18$	5.30	<.001*
	Control group	10	19.00	2.708			
<i>Post-test intensity of distress mean score</i>	<i>Interventional group</i>	<i>10</i>	<i>2.00</i>	<i>.471</i>	<i><math>t=-3.674</math></i> <i><math>df=18</math></i>	<i>1.20</i>	<i>0.002*</i>
	<i>Control group</i>	<i>10</i>	<i>3.20</i>	<i>.918</i>			
<i>Post-test amount of distress mean score</i>	<i>Interventional group</i>	<i>10</i>	<i>2.20</i>	<i>.632</i>	<i><math>t=-3.761</math></i> <i><math>df=18</math></i>	<i>1.10</i>	<i>&lt;.001*</i>
	<i>Control group</i>	<i>10</i>	<i>3.30</i>	<i>.674</i>			

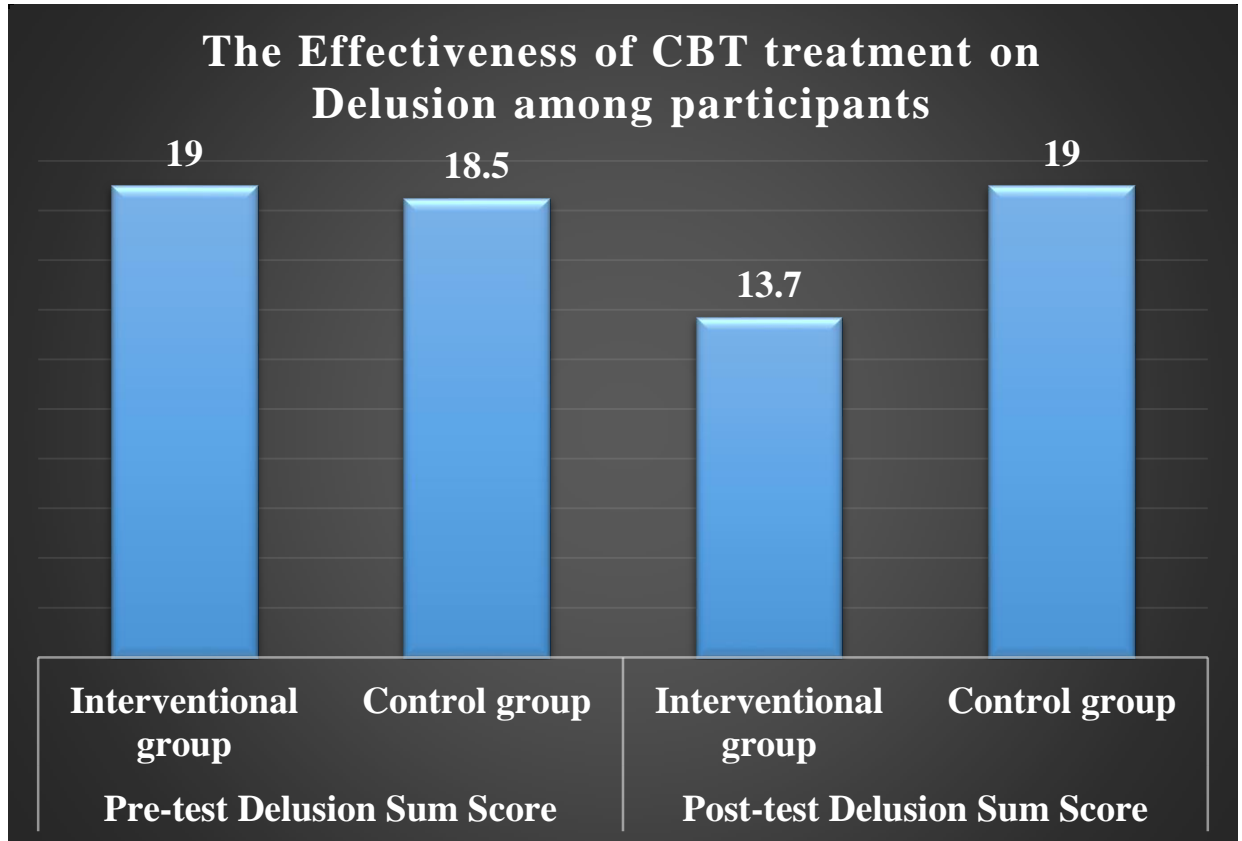
Independent t-test, Min score 0, Max score 24 higher mean score means higher delusion.

Min score 0, Max score 4, higher mean score means higher amount and intensity of distress,

\*Significant at  $p<0.05$

**Figure 2**

*The Effectiveness of CBT treatment on delusion among participants (n=20)*



### **3.5 Effectiveness of CBT treatment on schizophrenia severity and anxiety in the Schizophrenia Severity domain Among Participants**

Table 4 shows the effectiveness of CBT treatment on schizophrenia severity among participants using the independent t-test.

Regarding the schizophrenia severity pre-test sum score, there is no significant difference between interventional group (M=111.20, SD= 21.698) and control group (M=115.40, SD=13.599) ( $t=-0.519$ ,  $P=0.610$ ).

Regarding the schizophrenia severity post-test sum score, there is a significant difference between interventional group (M=84.10, SD= 24.587) and control group (M=118.20, SD=14.061) ( $t=-3.807$ ,  $p<0.001$ ). This means participants who received CBT have shown decreased schizophrenia severity sum score than those in control groups (Mean difference = 34.10).

It also shows the effectiveness of CBT treatment on the anxiety in the Schizophrenia Severity domain among participants using an independent t-test.

Regarding the anxiety post-test sum score, there is a significant difference between interventional group (M=2.30, SD= 0.483) and control group (M=4.70, SD=0.1.059) (t=-6.519, p=<0.001). This means participants who received CBT have shown decreased anxiety sum score in the schizophrenia severity domain compared to those in control groups (Mean difference = 2.40).

**Table 4**

*The Effectiveness of CBT treatment on Schizophrenia Severity, and on the anxiety related to schizophrenia severity among participants (n=20)*

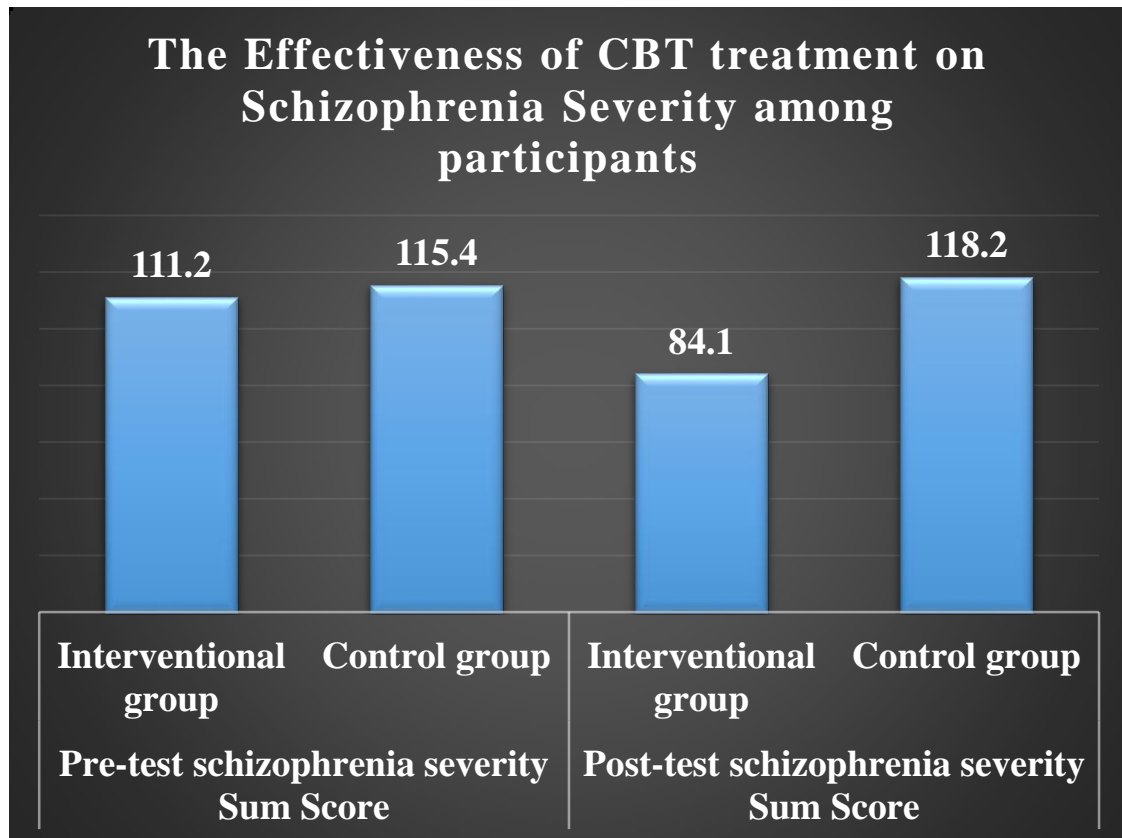
		n	Mean	SD	Statistical values	Men Different	P-value
Pre-test schizophrenia severity Sum Score	Interventional group	10	111.20	21.698	t=-.519 df=18	4.20	.610
	Control group	10	115.40	13.599			
Post-test schizophrenia severity Sum Score	Interventional group	10	84.10	24.587	t=-3.807 df=18	34.10	<.001*
	Control group	10	118.20	14.061			
Post-test anxiety Sum Score	Interventional group	10	2.30	.483	t=-6.519 df=18	2.40	<.001*
	Control group	10	4.70	1.059			

Independent t-test, Min score 30, Max score 210, higher mean score means higher schizophrenia severity

\*Significant at p=<0.05

**Figure 3**

*The Effectiveness of CBT treatment on schizophrenia severity among participants (n=20)*



### **3.6 Factors that Affect Participants' Outcome on Auditory Hallucinations, Delusions and Schizophrenia Severity (Post-test Sum Scores)**

Independent t-test and One-Way ANOVA were conducted to assess the factors that affect the participant's outcome on auditory hallucinations, delusions, and schizophrenia severity (post-tests sum scores).

#### **Regarding Auditory Hallucination post-test sum score**

There are no significant differences were found in all demographic characteristics of the participants ( $p \geq 0.05$ ).

#### **Regarding Delusion post-test sum score**

There are no significant differences were found in all demographic characteristics of the participants ( $p \geq 0.05$ ) in terms of delusion post-tests sum score. That's means participants have same outcome toward delusion.

### **Regarding Schizophrenia severity post-test sum score**

There are no significant differences were found in all demographic characteristics of the participants ( $p > 0.05$ ) in terms of schizophrenia severity post-tests sum score. That's means participants have same outcome toward Schizophrenia severity.

## Chapter Four

### Discussions and Conclusions

#### 4.1 Discussion

The goal of this chapter is to compare and contrast the findings presented in Chapter One with existing literature.

#### **Hypothesis 1: Using CBTp is effective in treating hallucinations and delusions among patients with schizophrenia at the level of 0.05**

The analysis conducted after the test on auditory hallucinations and delusions revealed a notable difference between the intervention group and the control group ( $p < 0.05$ ). This demonstrates that individuals who received CBT showed a decrease in auditory hallucinations, delusions, and overall scores of schizophrenia severity in comparison to participants in the control group. Various studies from around the globe corroborate our findings. Cognitive Behavioral Therapy models tailored for psychosis symptoms (CBTp) have been developed across a broad spectrum of mental health conditions, including schizophrenia. These models have been recommended as beneficial supplementary treatments alongside medication for individuals with schizophrenia, as outlined in numerous studies (Guaiana et al., 2022). Moreover, a review aimed at evaluating the use of CBT as an additional treatment for treatment-resistant schizophrenia (TRS) across different research populations discovered that, out of eight studies meeting the inclusion criteria, five demonstrated statistically significant efficacy of CBT in mitigating the positive psychotic symptoms associated with TRS (Ryan et al., 2022). Additionally, a controlled trial that applied CBT to address insomnia in a large cohort of over 3000 university students also led to a reduction in the manifestation of paranoid delusions and hallucinations among those participants whose insomnia improved (Freeman et al., 2017).

Additionally, a randomized controlled trial conducted in Mid-Norway, encompassing both outpatient and inpatient mental health clinics and centering on CBT for psychotic symptoms, revealed that 20 sessions of CBT were more effective than waiting list controls. This was evident in the improved overall scores on the Brief Psychiatric Rating Scale (BPRS), the delusion scale of the Psychotic Symptom Rating Scales

(PSYRATS), and the Global Assessment of Functioning (GAF) symptom score following treatment. The findings of this study underscore that CBT, even when delivered by non-expert practitioners in standard clinical settings, can result in enhancements in positive psychotic symptoms (Kråkvik et al., 2013).

Additionally, a meta-analysis indicated that CBT for psychosis (CBTp) might offer modest improvements for positive symptoms that are resistant to clozapine treatment. Given the minimal risks associated with CBTp and the scarce alternatives for individuals with clozapine-resistant schizophrenia, this method warrants consideration for this demographic (Todorovic et al., 2020). Moreover, research into the development of new CBT techniques utilizing computerized programs has shown significant reductions in the frequency and intensity of auditory hallucinations, as well as their perceived power and malevolence. Remarkably, some participants reported a complete cessation of these voices following just a few therapy sessions (Leff et al., 2014).

Conversely, an assessor-blinded, randomized controlled trial in the UK yielded results that diverged from our study. It found that schizophrenia patients who either could not tolerate clozapine or did not respond to the medication were randomly assigned to either CBT with standard treatment or standard treatment alone. At the 21-month follow-up, measured by the PANSS, CBT did not demonstrate a lasting impact on overall schizophrenia symptoms compared to standard treatment. Nonetheless, CBT did achieve statistically significant, albeit not clinically significant, improvements in total symptoms by the end of the treatment period (Morrison ClinPsyD et al., 2018).

This study contrasts with our findings, possibly due to our inability to conduct a 21-month follow-up; hence, our results are based on assessments made at the conclusion of the CBT sessions.

In summary, our research supports the effectiveness of CBT in treating delusions and hallucinations within our study population, despite some studies reporting contrary findings.

**Hypothesis 2: There is a relationship between the type of treatment and levels of anxiety related to hallucinations and delusions among patients with schizophrenia at the level of 0.05**

In our study, we observed that participants who underwent CBT experienced reductions in both the amount and intensity of distress and anxiety compared to the control group. This aligns with the findings of other research, leading us to conclude that CBT for psychosis (CBTp) is effective in diminishing distress and anxiety across both delusions and hallucinations domains. The following studies have reported similar outcomes.

Freeman utilized CBT focused on worry reduction for patients with persecutory delusions, noting that this approach led to decreases in persecutory delusions. The study highlighted worry and anxiety as potential triggers for delusions, suggesting that interventions targeting worry could be advantageous in psychosis treatment (Freeman et al., 2015).

Another study highlighted that neural markers of anxiety change early in the course of CBT, suggesting that these early neural adjustments could influence the clinical benefits of treatment. It was found that a single CBT session could rapidly alter behavioral markers of threat vigilance, which in turn predict symptom recovery within a one-month follow-up period (Reinecke et al., 2018).

Moreover, studies evaluating the effectiveness of CBT administered remotely versus traditional in-person CBT and non-CBT control conditions found that remote CBT was superior in managing symptoms of OCD, depression, and anxiety (Salazar de Pablo et al., 2023).

This demonstrates that remote CBT using online sessions is a viable option for broadening the availability of treatment as the technology is evolving these days and people have increasing accessibility to audio and video applications through their phones especially in the last few years where covid-19 obstructed free movement of people.

Furthermore, a systematic review and meta-analysis examining CBT's impact on anxiety-related psychotic symptoms found a medium, significant effect for post-

treatment data, both controlled and uncontrolled, and a small, significant effect for controlled between-group data (Heavens et al., 2019).

**Hypothesis 3: There were statistically significant differences in patients' improvement who received treatment as usual alone and those who received both CBT and treatment as usual at the level of 0.05**

This study found that participants who received CBT shown decreased in schizophrenia severity sum score compared to those in the control groups. This is consistent with the results of the following studies.

Initially, a systematic review dedicated to the CBTp in schizophrenia patients demonstrated that CBT is acknowledged as an effective method for tackling psychosis, addressing both positive and negative symptoms. Moreover, CBT has proven to enhance social functioning, positioning it as a broadly endorsed therapy for psychosis (Töre, 2021). Furthermore, a meta-analysis underlined CBTp's efficiency, suggesting that the common constraints of conventional CBTp could be surmounted by employing individual-participant data (IPD).

This approach showed CBTp's superior performance in controlling overall psychotic symptoms and general symptoms as assessed by the PANSS, notably influencing treatment results for positive, negative, and general or total psychotic symptoms following treatment (Turner et al., 2020). In addition, a randomized controlled study investigating cognitive-behavioral therapy in early-stage schizophrenia, carried out across 11 mental health facilities in England over 26 months, indicated that a 70-day treatment regime resulted in marked enhancements in total and positive symptom scores on the PANSS compared to conventional care (Lewis et al., 2002). Moreover, a randomized clinical trial in Tayside assessing CBT for medication-resistant psychotic symptoms observed modest treatment effects, but notable improvements in overall symptom severity were recorded with the CBT approach compared to supportive psychotherapy (SPT) or usual care. Furthermore, a randomized clinical trial in Tayside exploring CBT for medication-resistant psychotic symptoms reported modest treatment effects, yet significant improvements in overall symptom severity were observed with the CBT condition compared to supportive psychotherapy (SPT) or treatment as usual (TAU). The study demonstrated that both CBT and SPT, when combined, resulted in a

significant reduction in the severity of delusions compared to TAU, underscoring the value of CBT, delivered by clinical nurse specialists, as a beneficial supplement to standard care for individuals with chronic psychosis (Durham et al., 2003).

**Hypothesis 4: There are no statistically significant differences in the levels of improvement with other independent variables at the level of 0.05**

Our study revealed no significant differences in demographic characteristics among participants concerning auditory hallucinations, delusions, and schizophrenia severity scales. All participants originated from similar environments and had comparable ages, with 70% aged between 15-29 years and 30% between 30-40 years, resulting in a homogenous demographic sample.

This lack of diversity is reflected in our findings, as I was only able to work in Hebron mental health clinic due to lack of corporation with other broader mental health facility which is Bethlehem mental health hospital (the only mental health hospital in the west bank) when they refused allowing me to implement my research on their facility even after taking the approval from the Palestinian ministry of health as a result my population were from similar environments with similar social conditions. We identified only one study aligning with our research. This meta-analysis assessed the effectiveness and moderating factors of Cognitive Behavioral Therapy for Psychosis (CBTp) compared to alternative psychological treatments, analyzed 14 qualified randomized controlled trials (RCTs). It determined that factors such as patient demographics and the intensity of psychotic symptoms have minimal influence on the results of psychological treatments for psychosis, including CBTp (Turner et al., 2020). I believe that the reason for this strange results in these studies is due to lack of diversity in the studies populations.

Contrastingly, some studies diverged from our results. For instance, a study investigating the impact of the CBT on insight into schizophrenia across different socio-demographics discovered that improvements in insight were significantly lesser in the Black African group compared to the white group (Rathod et al., 2005). Furthermore, research aiming to identify the delivery of the CBTp through an automated method in a big electronic health record database in the UK found that younger patients, those from white and other ethnic groups compared to black ethnic groups, and patients with

diagnoses of schizophrenia spectrum and schizoaffective disorder, as opposed to schizophrenia, were significantly more likely to improve after receiving CBTp (Colling et al., 2017).

#### **4.2 Limitations**

The study was conducted at the Hebron Governmental Mental Health Clinic, serving the Hebron district, thus limiting the generalizability of the findings to other regions in Palestine. Additionally, as a result of lack of corroboration from Bethlehem mental health hospital where we weren't allowed to implement our research, we had to use the quasi-experimental design due to the few numbers of patients who met the inclusion criteria which form a struggle to control for all plausible confounding variables as effectively as randomized experiments. Attempts to match groups on key variables may still result in systematic differences that bias the findings of the research, as a result there are inevitably inadequately measured, unmeasured, and unknown confounds that may limit the validity of the conclusions drawn. We had to apply this design only because no other option is available to answer the important research question. Moreover, Hebron mental health clinic team didn't have the time or the resources to assist the researcher in identifying qualified patients for the research which prolonged the process of finding and contacting the patients also, they couldn't help with the assessment process of patients neither pre or post intervention. We also suffered from very cold weather with no available extra heating devices in the institution so I had to bring my own heating devices from home. In addition, we faced a scarcity of up-to-date studies, sources, and references. The process of gaining trust was challenging due to the skepticism often exhibited by clients with schizophrenia. Participants were hesitant to discuss their hallucinations or acknowledge their mental health issues, influenced by social stigma and barriers, despite assurances of confidentiality.

The study also encountered logistical challenges, including movement restrictions and transportation difficulties exacerbated by adverse weather conditions. Furthermore, some participants discontinued their involvement midway through the research, a decision influenced by their limited awareness of their condition and treatment. Lastly, there was a noticeable gap in knowledge regarding the CBTp attributed to the absence of facilities implementing CBTp as a treatment modality for schizophrenia or other mental health conditions in the West Bank.

### **4.3 Conclusion**

Over the past two decades, the CBT has been consistently validated by numerous meta-analyses as a beneficial and effective treatment option for patients with schizophrenia. During this time, CBT for schizophrenia has undergone significant evolution, expanding from its initial focus on medication-resistant positive symptoms to encompassing a wider range of treatment outcomes. It has become adaptable, offering new methods of delivery, and has shown effectiveness in addressing psychosis among participants.

This study highlights the impact of receiving CBT for psychosis. When compared to the control group, CBT for psychosis in our research notably enhanced the management of overall psychotic symptoms, positive symptoms, auditory hallucinations, and delusions.

CBT for psychosis (CBTp) is grounded in the cognitive model and transcends a mere aggregation of techniques. It prioritizes engagement with the patient as fundamental. Strategies such as employing a normalizing approach, non-confrontational dialogue, and collaborative empiricism (a joint exploration of different perspectives) are key components.

CBTp is both goal-oriented and time-bound, with objectives tailored towards alleviating distress, demystifying psychotic symptoms, uncovering their personal significance, and fostering self-regulation. This approach has been shown to reduce both psychotic and affective symptoms and enhance overall functioning.

This research adds to the accumulating evidence supporting the need for adaptation of evidence-based interventions and underscores the effectiveness and adequacy of CBT for treating psychosis.

#### **4.4 Recommendations**

The Palestinian Ministry of Health ought to recognize the significance of the CBTp in assisting individuals with schizophrenia to enhance their social and problem-solving capabilities, as well as in diminishing symptom severity. This could facilitate their active participation in community life rather than experiencing isolation. Therefore, it is crucial to ensure the availability of qualified practitioners within mental health facilities, capable of administering CBT alongside pharmacological treatments to patients with schizophrenia.

Further investigation into the impact of CBTp on schizophrenia patients across Palestine is warranted in addition to providing support and necessary resources for the researchers.

The applicability of this study's findings to all mental health establishments in Palestine necessitates a careful examination of the psychological benefits derived from CBTp techniques, particularly in alleviating hallucinations and delusions as I used quasi-experimental trial compromising the generalizability of this study, in addition to other factors increasing bias of this research including having to assess and apply the study instruments by my own.

Finally, I recommend that policy makers should consider providing CBT training programs as it was proven beneficial.

In addition to enforce nurses working in mental health institutions to have CBT training and monitor using these therapeutic techniques with mentally ill patients especially with patients with schizophrenia. In addition, they must provide more awareness programs for the community about mental illnesses and CBT to decrease the stigma attached to mentally ill patients and to encourage patients or their spouses to use psychotherapy including CBT to treat hallucinations and delusions and providing job opportunities, specialized educational and handcrafts learning facility for mentally ill patients in order to reengage them in the community and reach recovery.

## List of Abbreviations

<b>Abbreviation</b>	<b>Meaning</b>
CBT	Cognitive behavioral therapy
CBTp	Cognitive behavioral therapy for psychosis
PSYRATS	Psychotic Symptom Rating Scales
PANS	Positive and Negative Syndrome Scale
APA	American Psychiatric Association
NICE	National Institute for health and Care Excellence
ABC Beck's model	A: Activating event, B: Beliefs, C: Consequences
TRS	Treatment Resistant Schizophrenia
GAF	Global Assessment of Functioning
BPRS	Brief Psychiatric Rating Scale
OCD	Obsessive Compulsive Disorder
AH	Auditory Hallucinations
PRS	Psychopathology Rating Schedule
CGI	Clinical Global Impression
3Cs	Catch it, Check it, Change it
SPSS	Statistical Package for Social Sciences
SD	Standard Deviation
M	Mean
IPD	Individual Participant Data
SPT	Supportive Psychotherapy
TAU	Treatment As Usual
RTCs	Randomized Controlled Trials

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# Appendices

## Appendix A

### Task Facilitation

State of Palestine  
Ministry of Health  
Education in Health and Scientific  
Research Unit



دولة فلسطين  
وزارة الصحة  
وحدة التعليم الصحي  
والبحث العلمي

Ref.: .....  
Date:.....

الرقم: ٥٥٥/٤٦٩١/١٤٤٢  
التاريخ: ١٤/٤/٢٠٢٣

عطوفة الوكيل المساعد لشؤون الصحة العامة وصحة الاسرة المحترم،،،  
تحية واحترام،،،

#### الموضوع: تسهيل مهمة بحث

يرجى تسهيل مهمة الطالبة: سلسبيل سميح هاشم زماعرة - ماجستير تمرير الصحة

النفسية- جامعة النجاح، لعمل بحث الماجستير بعنوان:

"The effect of cognitive behavioral therapy in treating hallucination and  
delusion among patients with schizophrenia: a randomized control trial"

حيث ستقوم الطالبة بجمع معلومات من خلال تعبئة استبانة من المرضى او ذويهم (بعد اخذ موافقتهم) في الفترة ما بين 2022/11/30 - 2023/3/30، وذلك في الفترة مع العلم أن مشرف الدراسة: د. عدنان سرحان.

وذلك في: - مراكز الصحة النفسية في بيت لحم والخليل

على ان يتم الالتزام بالمحافظة على اخلاقيات البحث العلمي وسرية المعلومات.  
على ان يتم الالتزام بجميع تعليمات واجراءات الوقاية والسلامة الصادرة عن وزارة الصحة بخصوص جائحة كورونا، وتحت طائلة المسؤولية. وبرايز شهادة التطعيم قبل دخول مرافق وزارة الصحة.  
على ان يتم تزويد الوزارة بنسخة PDF من نتائج البحث، التعهد بعدم النشر لحين الحصول على موافقة وزارة الصحة. وتحديد دور وزارة الصحة.

مع الاحترام،،،



رئيس وحدة التعليم الصحي والبحث العلمي

نسخة: مدير دائرة التمريض والقبالة المحترمة/ جامعة النجاح

## Appendix B

### IRB approval letter

An-Najah National University  
Faculty of Medicine & Health  
Sciences  
Institutional Review Board



جامعة النجاح الوطنية  
كلية الطب وعلوم الصحة  
لجنة أخلاقيات البحث العلمي

Ref: Mas. Sep. 2022/26

#### IRB Approval Letter

**Title of Research:**

*The effect of Cognitive Behavioural Therapy in treating Hallucination and Delusion among patients with schizophrenia: A Randomized Control Trial*

**Submitted by:**

Salsabeel Zamareh

**Supervisor:**

Adnan Sarhan

**Approved:**

19<sup>th</sup> Sep, 2022

Your Study Title "*The effect of Cognitive Behavioural Therapy in treating Hallucination and Delusion among patients with schizophrenia: A Randomized Control Trial.*" reviewed by An-Najah National University IRB committee and was approved on 19<sup>th</sup> Sep, 2022.

Hasan Fitian, MD

IRB Committee Chairman



Nablus - P.O Box :7 or 707 | Tel (970) (09) 2342902/4/7/8/14 | Faximile (970) (09) 2342910 | E-mail :  
[IRB@najah.edu](mailto:IRB@najah.edu)

## Appendix C

### Approval request to participate in a scientific research

#### طلب موافقة على المشاركة في بحث علمي

عنوان الدراسة: اثر العلاج المعرفي السلوكي في علاج الهلوسات والالوهام لدى مرضى الفصام الذهني:

دراسه تجريب

اسم الباحث الرئيسي: طالبة ماجستير ترميض صحة نفسية سلسبيل زماعة

اسم المشرف على البحث: د. عدنان سرحان

سيطلب منك او من المريض المسؤول عن رعايته المشاركة في دراسة بحثية. وجميع الأبحاث طوعية.

وسواء أشاركك في هذا البحث أم

لا، فالأمر يعود لاختيارك وحدك. برجاء أخذ الوقت الكافي لاتخاذ القرار.

يُتبع مبدأ السرية في المحادثات التي تجريها مع اختصاصي المعالجة المتابع لحالتك، باستثناء ظروف

محددة للغاية. ومع ذلك، فقد يخالف اختصاصي المعالجة الالتزام بالسرية إذا كان هناك تهديد مباشر على

سلامتك او سلامة احد من المحيطين بك.

العلاج السلوكي المعرفي (CBT) هو نوع شائع من العلاج بالكلام (العلاج النفسي). تتعامل مع مُستشار

الصحة العقلية (مُعالج نفسي أو مُعالج) بطريقة منظّمة، وحضور عددٍ محدودٍ من الجلسات. تساعدك

طريقة العلاج السلوكي المعرفي (CBT) على أن تُدرك التفكير غير الصحيح أو السلبي حتى تتمكن من

عرض المواقف الصعبة بشكل أكثر وضوحًا والاستجابة لها بطريقة أكثر فعالية.

يُستخدم العلاج المعرفي السلوكي لعلاج نطاق واسع من المشكلات. وهو النوع المفضل في العلاج النفسي نظرًا لسرعة مساعدته لك في تحديد تحديات محددة والتكيف معها. وبوجه عام، لا يتطلب العلاج سوى جلسات قليلة مقارنة بأنواع العلاج الأخرى، كما أنه يُقدّم بطريقة مهيكلّة. قد يساعدك العلاج المعرفي السلوكي فيما يلي:

- السيطرة على أعراض المرض العقلي
- الوقاية من انتكاس أعراض المرض العقلي
- علاج المرض العقلي عندما لا تُعد الأدوية خيارًا جيدًا
- تعلم تقنيات للتكيف مع مواقف الحياة الضاغطة
- تحديد أساليب للسيطرة على العواطف
- حل المشاكل في العلاقات وتعلم أساليب أفضل في التواصل

بشكل عام، ينطوي العلاج السلوكي المعرفي على خطرٍ ضئيل. ولكن قد تشعر بعدم الارتياح العاطفي في بعض الأحيان. وذلك لأن العلاج السلوكي المعرفي قد يجعلك تستكشف المشاعر والعواطف والخبرات المؤلمة. قد تبكي أو تتضايق أو تشعر بالغضب أثناء جلسة صعبة. وقد تشعر أيضًا بأنك مُستنزف جسديًا. ومع ذلك، يمكن أن تساعدك مهارات التأقلم التي تتعلمها على التحكم في المشاعر والمخاوف السلبية وقهرها.

حصلت على شرح مفصل عن الدراسة وأهدافها وإجراءاتها، ومنافعها، والمخاطر المحتملة وعن الحرية الكاملة للمشاركة.

أفهم كل المعلومات التي قدمت ووصلتني إجابة على كل أسئلتني.

أوافق على أن أشارك في هذه الدراسة بطوعية وبدون أي نوع من الاجبار أو الضغوط. أفهم ان بإمكانني التوقف عن المشاركة في أي وقت.

----- توقيع المشارك أو الممثل المعتمد قانونيا

----- التاريخ

----- علاقة الممثل المعتمد قانونيا بلشارك

-----

أعلم أنه سيتم تسجيلي بالصوت كجزء من هذه الدراسة.

أوافق على تسجيلي بالصوت بطوعية وبدون أي نوع من الاجبار أو الضغوط. أفهم ان بإمكانني التوقف عن المشاركة في أي وقت.

----- توقيع المشارك أو الممثل المعتمد قانونيا

----- التاريخ

----- علاقة الممثل المعتمد قانونيا بلشارك

-----

(لا يحرمك التوقيع على نموذج الموافقة هذا أي من حقوقك القانونية بأى حال كما لا يعني الباحثين أو

الراعى أو المؤسسة المشاركة من مسؤولياتهم المهنية او القانونية )

يمكنك الاتصال بالباحثة: سلسبيل زماعرة على الرقم: 0533249102 متى راودتك أسئلة عن الدراسة.

**Demographic Data:**

1. Client's code: -----
  
2. Age of client
  - 15 – 30 years old
  - 30 - 45 years old
  - 45+ years old
  
3. Gender
  - Male
  - Female
  
4. Client Place of residence
  - Village
  - City
  - Camp
  
5. Educational level
  - Primary school
  - High school
  - Bachelor degree or more
  
6. Marital status
  - Married
  - Single
  - Divorced or wooded
  
7. Medical history and admissions
  - Yes
  - No
  
8. monthly income
  - Less than 400 \$
  - More than 400 \$
  
9. Family history of psychiatric disorders
  - Yes
  - No
  
10. Client's work
  - Employed
  - Not employed
  
11. Addictive behavior and habits
  - Drinking alcohol
  - Smoking cigarettes
  - Using drugs

12. Suicidal and homicidal potentials

- Yes
- No

## **Appendix D**

### **The Psychotic Symptom Rating Scales (PSYRATS)**

**The PSYRATS rating form** (Haddock et al., 1999):

#### **A- Auditory hallucinations**

##### **1- Frequency**

**0** Voices not present or present less than once a week

**1** Voices occur for at least once a week

**2** Voices occur at least once a day

**3** Voices occur at least once a hour

**4** Voices occur continuously or almost continuously, i.e. stop for only a few seconds or minutes

##### **2- Duration**

**0** Voices not present

**1** Voices last for a few seconds, fleeting voices

**2** Voices last for several minutes

**3** Voices last for at least one hour

**4** Voices last for hours at a time

##### **3- Location**

**0** No voices present

**1** Voices sound like they are inside head only

**2** Voices outside the head, but close to ears or head. Voices inside the head may also be present

**3** Voices sound like they are inside or close to ears and outside head away from ears

**4** Voices sound like they are from outside the head only

#### **4- Loudness**

- 0 Voices not present
- 1 Quieter than own voice, whispers.
- 2 About same loudness as own voice
- 3 Louder than own voice
- 4 Extremely loud, shouting

#### **5- Belief's re-origin of voices**

- 0 Voices not present
- 1 Believes voices to be solely internally generated and related to self
- 2 Holds < 50% convictions that voices originate from external causes
- 3 Holds  $\geq$  50% convictions (but < 100%) that voices originate from external causes
- 4 Believes voices are solely due to external causes (100% conviction)

#### **6- Amount of negative content of voices**

- 0 No unpleasant content
- 1 Occasional unpleasant content (<10%)
- 2 Minority of voice content is unpleasant or negative (<50%)
- 3 Majority of voice content is unpleasant or negative ( $\geq$ 50%)
- 4 All of voice content is unpleasant or negative

#### **7- Degree of negative content**

- 0 Not unpleasant or negative
- 1 Some degree of negative content, but not personal comments relating to self or family e.g. swear words or comments not directed to self, e.g. 'the milkman's ugly'
- 2 Personal verbal abuse, comments on behaviour e.g. 'shouldn't do that or say that'
- 3 Personal verbal abuse relating to self-concept e.g. 'you're lazy, ugly, mad, perverted'
- 4 Personal threats to self, e.g. threats to harm self or family, extreme instructions or commands to harm self or others

## **8- Amount of distress**

**0** Voices not distressing at all

**1** Voices occasionally distressing, majority not distressing (<10%)

**2** Minority of voices distressing (<50%)

**3** Majority of voices distressing, minority not distressing (>=50%)

**4** Voices always distressing

## **9- Intensity of distress**

**0** Voices not distressing at all

**1** Voices slightly distressing

**2** Voices are distressing to a moderate degree

**3** Voices are very distressing, although subject could feel worse

**4** Voices are extremely distressing, feel the worst he/she could possibly feel

## **10- Disruption to life caused by voices**

**0** No disruption to life, able to maintain social and family relationships (if present)

**1** Voices causes minimal amount of disruption to life e.g. interferes with concentration although able to maintain daytime activity and social and family relationships and be able to maintain independent living without support

**2** Voices cause moderate amount of disruption to life causing some disturbance to daytime activity and/or family or social activities. The patient is not in hospital although may live in supported accommodation or receive additional help with daily living skills

**3** Voices cause severe disruption to life so that hospitalisation is usually necessary. The patient is able to maintain some daily activities, self-care and relationships while in hospital. The patient may also be in supported accommodation but experiencing severe disruption of life in terms of activities, daily living skills and or relationships

**4** Voices cause complete disruption of daily life requiring hospitalization. The patient is unable to maintain any daily activities and social relationships. Self-care is also severely disrupted.

### **11- Controllability of voices**

**0** Subject believes they can have control over the voices and can always bring on or dismiss them at will

**1** Subject believes they can have some control over the voices on the majority of occasions

**2** Subject believes they can have some control over their voices approximately half of the time

**3** Subject believes they can have some control over their voices but only occasionally. The majority of the time the subject experiences voices which are uncontrollable

**4** Subject has no control over when the voices occur and cannot dismiss or bring them on at all.

### **B- Delusions:**

#### **1- Amount of preoccupation with delusions**

**0** No delusions, or delusions which the subject thinks about less than once a week

**1** Subject thinks about beliefs at least once a week

**2** Subject thinks about beliefs at least once a day

**3** Subject thinks about beliefs at least once an hour

**4** Subject thinks about delusions continuously or almost continuously

#### **2- Duration of preoccupation with delusions**

**0** No delusions

**1** Thoughts about beliefs last for a few seconds, fleeting thoughts

**2** Thoughts about delusions last for several minutes

**3** Thoughts about delusions last for at least 1 hour

**4** Thoughts about delusions usually last for hours at a time

#### **3- Conviction**

**0** No conviction at all

**1** Very little conviction in reality of beliefs, !10%

**2** Some doubts relating to conviction in beliefs, between 10–49%

**3** Conviction in belief is very strong, between 50–99%

**4** Conviction is 100%

**4- Amount of distress**

**0** Beliefs never cause distress

**1** Beliefs cause distress on the minority of occasions

**2** Beliefs cause distress on 150% of occasions

**3** Beliefs cause distress on the majority of occasions when they occur between 50–99% of time

**4** Beliefs always cause distress when they occur

**5- Intensity of distress**

**0** No distress

**1** Beliefs cause slight distress

**2** Beliefs cause moderate distress

**3** Beliefs cause marked distress

**4** Beliefs cause extreme distress, could not be worse

**6- Disruption to life caused by beliefs**

**0** No disruption to life, able to maintain independent living with no problems in daily living skills. Able to maintain social and family relationships (if present)

**1** Beliefs cause minimal amount of disruption to life, e.g. interferes with concentration although able to maintain daytime activity and social and family relationships and be able to maintain independent living without support

**2** Beliefs cause moderate amount of disruption to life causing some disturbance to daytime activity and/or family or social activities. The patient is not in hospital although may live in supported accommodation or receive additional help with daily living skills

**3** Beliefs cause severe disruption to life so that hospitalization is usually necessary. The patient is able to maintain some daily activities, self-care and relationships while in hospital.

The patient may be also be in supported accommodation but experiencing severe disruption of life in terms of activities, daily living skills and/or relationships

**4** Beliefs cause complete disruption of daily life requiring hospitalization. The patient is unable to maintain any daily activities and social relationships. Self-care is also severely disrupted

## Appendix E

### The Positive and Negative Syndrome Scale (PANSS)

**PANSS rating form** (Kølbæk et al., 2021):

	absent	Minimal	Mild	moderate	moderate severe	Severe	extreme
P1 Delusions	1	2	3	4	5	6	7
P2 Conceptual disorganization	1	2	3	4	5	6	7
P3 Hallucinatory behavior	1	2	3	4	5	6	7
P4 Excitement	1	2	3	4	5	6	7
P5 Grandiosity	1	2	3	4	5	6	7
P6 Suspiciousness/persecution	1	2	3	4	5	6	7
P7 Hostility	1	2	3	4	5	6	7
N1 Blunted affect	1	2	3	4	5	6	7
N2 Emotional withdrawal	1	2	3	4	5	6	7
N3 Poor rapport	1	2	3	4	5	6	7
N4 Passive/apathetic social withdrawal	1	2	3	4	5	6	7
N5 Difficulty in abstract thinking	1	2	3	4	5	6	7
N6 Lack of spontaneity & flow of conversation	1	2	3	4	5	6	7
N7 Stereotyped thinking	1	2	3	4	5	6	7
G1 Somatic concern	1	2	3	4	5	6	7
G2 Anxiety	1	2	3	4	5	6	7
G3 Guilt feelings	1	2	3	4	5	6	7
G4 Tension	1	2	3	4	5	6	7
G5 Mannerisms & posturing	1	2	3	4	5	6	7
G6 Depression	1	2	3	4	5	6	7
G7 Motor retardation	1	2	3	4	5	6	7

G8 Uncooperativeness	1	2	3	4	5	6	7
G9 Unusual thought content	1	2	3	4	5	6	7
G10 Disorientation	1	2	3	4	5	6	7
G11 Poor attention	1	2	3	4	5	6	7
G12 Lack of judgement & insight	1	2	3	4	5	6	7
G13 Disturbance of volition	1	2	3	4	5	6	7
G14 Poor impulse control	1	2	3	4	5	6	7
G15 Preoccupation	1	2	3	4	5	6	7
G16 Active social avoidance	1	2	3	4	5	6	7

**SCORING INSTRUCTIONS:**

- A rating of 2 (minimal) denotes questionable or subtle or suspected pathology, or it also may allude to the extreme end of the normal range.
- A rating of 3 (mild) is indicative of a symptom whose presence is clearly established but not pronounced and interferes little in day-today functioning.
- A rating of 4 (moderate) characterizes a symptom which, though representing a serious problem, either occurs only occasionally or intrudes on daily life only to a moderate extent.
- A rating of 5 (moderate severe) indicates marked manifestations that distinctly impact on one's functioning but are not all-consuming and usually can be contained at will.
- A rating of 6 (severe) represents gross pathology that is present very frequently, proves highly disruptive to one's life, and often calls for direct supervision.
- A rating of 7 (extreme) refers to the most serious level of psychopathology, whereby the manifestations drastically interfere in most or all major life functions, typically necessitating close supervision and assistance in many areas.

Each item is rated in consultation with the definitions and criteria provided in this manual. The ratings are rendered on the PANSS rating form overleaf by encircling the appropriate number following each dimension.

Finally, a composite scale may be derived by subtracting the negative score from the positive score (Kay et al., 1988).

Of the 30 items included in the PANSS, 7 constitute a Positive Scale, 7 a Negative Scale, and the remaining 16 a General Psychopathology Scale. The scores for these scales are arrived at by summation of ratings across component items. Therefore, the potential ranges are 7 to 49 for the Positive and Negative Scales, and 16 to 112 for the General Psychopathology Scale. In addition to these measures, a Composite Scale is scored by subtracting the negative score from the positive score. This yields a bipolar index that ranges from -42 to +42, which is essentially a difference score reflecting the degree of predominance of one syndrome in relation to the other (Kølbæk et al., 2021).

**POSITIVE SCALE (P)**(Kay, S R Fiszbein A, 1987)

**P1. DELUSIONS** - Beliefs which are unfounded, unrealistic and idiosyncratic. Basis for rating - Thought content expressed in the interview and its influence on social relations and behaviour.

**1 Absent** - Definition does not apply

**2 Minimal** - Questionable pathology; may be at the upper extreme of normal limits

**3 Mild** - Presence of one or two delusions which are vague, uncrystallised and not tenaciously held. Delusions do not interfere with thinking, social relations or behaviour.

**4 Moderate** - Presence of either a kaleidoscopic array of poorly formed, unstable delusions or a few well-formed delusions that occasionally interfere with thinking, social relations or behaviour.

**5 Moderate Severe** - Presence of numerous well-formed delusions that are tenaciously held and occasionally interfere with thinking, social relations and behaviour.

**6 Severe** - Presence of a stable set of delusions which are crystallized, possibly systematized, tenaciously held and clearly interfere with thinking, social relations and behaviour.

**7 Extreme** - Presence of a stable set of delusions which are either highly systematized or very numerous, and which dominate major facets of the patient's life. This frequently results in inappropriate and irresponsible action, which may even jeopardies the safety of the patient or others.

**P2. CONCEPTUAL DISORGANISATION** - Disorganized process of thinking characterized by disruption of goal-directed sequencing, e.g. circumstantiality, loose associations, tangentiality, gross illogicality or thought block. Basis for rating - Cognitive-verbal processes observed during the course of interview.

**1 Absent** - Definition does not apply

**2 Minimal** - Questionable pathology; may be at the upper extreme of normal limits

**3 Mild** - Thinking is circumstantial, tangential or paralogical. There is some difficulty in directing thoughts towards a goal, and some loosening of associations may be evidenced under pressure.

**4 Moderate** - Able to focus thoughts when communications are brief and structured, but becomes loose or irrelevant when dealing with more complex communications or when under minimal pressure.

**5 Moderate Severe** - Generally has difficulty in organising thoughts, as evidenced by frequent irrelevancies, disconnectedness or loosening of associations even when not under pressure.

**6 Severe** - Thinking is seriously derailed and internally inconsistent, resulting in gross irrelevancies and disruption of thought processes, which occur almost constantly.

**7 Extreme** - Thoughts are disrupted to the point where the patient is incoherent. There is marked loosening of associations, which result in total failure of communication, e.g. “word salad” or mutism.

**P3. HALLUCINATORY BEHAVIOUR** - Verbal report or behaviour indicating perceptions which are not generated by external stimuli. These may occur in the auditory, visual, olfactory or somatic realms. Basis for rating - Verbal report and physical manifestations during the course of interview as well as reports of behaviour by primary care workers or family.

**1 Absent** - Definition does not apply

**2 Minimal** - Questionable pathology; may be at the upper extreme of normal limits

**3 Mild** - One or two clearly formed but infrequent hallucinations, or else a number of vague abnormal perceptions which do not result in distortions of thinking or behaviour.

**4 Moderate** - Hallucinations occur frequently but not continuously, and the patient's thinking and behaviour are only affected to a minor extent.

**5 Moderate Severe** - Hallucinations occur frequently, may involve more than one sensory modality, and tend to distort thinking and/or disrupt behaviour. Patient may have a delusional interpretation of these experiences and respond to them emotionally and, on occasion, verbally as well.

**6 Severe** - Hallucinations are present almost continuously, causing major disruption of thinking and behaviour. Patient treats these as real perceptions, and functioning is impeded by frequent emotional and verbal responses to them.

**7 Extreme** - Patient is almost totally preoccupied with hallucinations, which virtually dominate thinking and behaviour. Hallucinations are provided a rigid delusional interpretation and provoke verbal and behavioural responses, including obedience to command hallucinations.

**P4. EXCITEMENT** - Hyperactivity as reflected in accelerated motor behaviour, heightened responsivity to stimuli, hypervigilance or excessive mood lability. Basis for rating - Behavioural manifestations during the course of interview as well as reports of behaviour by primary care workers or family.

**1 Absent** - Definition does not apply

**2 Minimal** - Questionable pathology; may be at the upper extreme of normal limits

**3 Mild** - Tends to be slightly agitated, hypervigilant or mildly over aroused throughout the interview, but

without distinct episodes of excitement or marked mood lability. Speech may be slightly pressured.

**4 Moderate** - Agitation or overarousal is clearly evident throughout the interview, affecting speech and general mobility, or episodic outbursts occur sporadically.

**5 Moderate Severe** - Significant hyperactivity or frequent outbursts of motor activity are observed, making it difficult for the patient to sit still for longer than several minutes at any given time.

**6 Severe** - Marked excitement dominates the interview, delimits attention, and to some extent affects personal functions such as eating or sleeping.

**7 Extreme** - marked excitement seriously interferes in eating and sleeping and makes interpersonal interactions virtually impossible. Acceleration of speech and motor activity may result in incoherence and exhaustion.

**P5. GRANDIOSITY** - Exaggerated self-opinion and unrealistic convictions of superiority, including

delusions of extraordinary abilities, wealth, knowledge, fame, power and moral righteousness. Basis for rating - Thought content expressed in the interview and its influence on behaviour.

**1 Absent** - Definition does not apply

**2 Minimal** - Questionable pathology; may be at the upper extreme of normal limits

**3 Mild** - Some expansiveness or boastfulness is evident, but without clear-cut grandiose delusions.

**4 Moderate** - Feels distinctly and unrealistically superior to others. Some poorly formed delusions about special status or abilities may be present but are not acted upon.

**5 Moderate Severe** - Clear-cut delusions concerning remarkable abilities, status or power are expressed and influence attitude but not behaviour.

**6 Severe** - Clear-cut delusions of remarkable superiority involving more than one parameter (wealth, knowledge, fame, etc) are expressed, notably influence interactions and may be acted upon.

**7 Extreme** - Thinking, interactions and behaviour are dominated by multiple delusions of amazing ability, wealth, knowledge, fame, power and/or moral stature, which may take on a bizarre quality.

**P6. SUSPICIOUSNESS/PERSECUTION** - Unrealistic or exaggerated ideas of persecution, as reflected in guardedness, and distrustful attitude, suspicious hypervigilance or frank delusions that others mean harm. Basis for rating – Thought content expressed in the interview and its influence on behaviour.

**1 Absent** - Definition does not apply

**2 Minimal** - Questionable pathology; may be at the upper extreme of normal limits

**3 Mild** - Presents a guarded or even openly distrustful attitude, but thoughts, interactions and behaviour are minimally affected.

**4 Moderate** - Distrustfulness is clearly evident and intrudes on the interview and/or behaviour, but there is no evidence of persecutory delusions. Alternatively, there may be indication of loosely formed persecutory delusions, but these do not seem to affect the patient's attitude or interpersonal relations.

**5 Moderate Severe** - Patient shows marked distrustfulness, leading to major disruption of interpersonal relations, or else there are clear-cut persecutory delusions that have limited impact on interpersonal relations and behaviour.

**6 Severe** - Clear-cut pervasive delusions of persecution which may be systematized and significantly interfere in interpersonal relations.

**7 Extreme** - A network of systematized persecutory delusions dominates the patient's thinking, social relations and behavior.

**P7. HOSTILITY** - Verbal and nonverbal expressions of anger and resentment, including sarcasm, passive-aggressive behavior, verbal abuse and assaultive. Basis for rating – Interpersonal behavior observed during the interview and reports by primary care workers or family.

**1 Absent** - Definition does not apply

**2 Minimal** - Questionable pathology; may be at the upper extreme of normal limits

**3 Mild** - Indirect or restrained communication of anger, such as sarcasm, disrespect, hostile expressions and occasional irritability.

**4 Moderate** - Presents an overtly hostile attitude, showing frequent irritability and direct expression of anger or resentment.

**5 Moderate Severe** - Patient is highly irritable and occasionally verbally abusive or threatening.

**6 Severe** - Uncooperativeness and verbal abuse or threats notably influence the interview and seriously impact upon social relations. Patient may be violent and destructive but is not physically assaultive towards others.

**7 Extreme** - Marked anger results in extreme uncooperativeness, precluding other interactions, or in episode(s) of physical assault towards others.

**NEGATIVE SCALE (N)**(Kay, S R Fiszbein A, 1987)

**N1. BLUNTED AFFECT** - Diminished emotional responsiveness as characterized by a reduction in facial expression, modulation of feelings and communicative gestures. Basis for rating - Observation of physical manifestations of affective tone and emotional responsiveness during the course of the interview.

**1 Absent** - Definition does not apply

**2 Minimal** - Questionable pathology; may be at the upper extreme of normal limits

**3 Mild** - Changes in facial expression and communicative gestures seem to be stilted, forced, artificial or lacking in modulation.

**4 Moderate** - Reduced range of facial expression and few expressive gestures result in a dull appearance

**5 Moderate Severe** - Affect is generally 'flat' with only occasional changes in facial expression and a paucity of communicative gestures.

**6 Severe** - Marked flatness and deficiency of emotions exhibited most of the time. There may be unmodulated extreme affective discharges, such as excitement, rage or inappropriate uncontrolled laughter.

**7 Extreme** – Changes in facial expression and evidence of communicative gestures are virtually absent. Patient seems constantly to show a barren or 'wooden' expression.

**N2. EMOTIONAL WITHDRAWAL** - Lack of interest in, involvement with, and affective commitment to life's events. Basis for rating - Reports of functioning from primary care workers or family and observation of interpersonal behavior during the course of the interview.

**1 Absent** - Definition does not apply

**2 Minimal** - Questionable pathology; may be at the upper extreme of normal limits

**3 Mild** - Usually lack initiative and occasionally may show deficient interest in surrounding events.

**4 Moderate** - Patient is generally distanced emotionally from the milieu and its challenges but, with encouragement, can be engaged.

**5 Moderate Severe** - Patient is clearly detached emotionally from persons and events in the milieu, resisting all efforts at engagement. Patient appears distant, docile and purposeless but can be involved in communication at least briefly and tends to personal needs, sometimes with assistance.

**6 Severe** - Marked deficiency of interest and emotional commitment results in limited conversation with others and frequent neglect of personal functions, for which the patient requires supervision.

**7 Extreme** – Patient is almost totally withdrawn, uncommunicative and neglectful of personal needs as a result of profound lack of interest and emotional commitment.

**N3. POOR RAPPORT** - Lack of interpersonal empathy, openness in conversation and sense of closeness, interest or involvement with the interviewer. This is evidenced by interpersonal distancing and reduced verbal and nonverbal communication. Basis for rating - Interpersonal behaviour during the course of the interview.

**1 Absent** - Definition does not apply

**2 Minimal** - Questionable pathology; may be at the upper extreme of normal limits

**3 Mild** - Conversation is characterized by a stilted, strained or artificial tone. It may lack emotional depth or tend to remain on an impersonal, intellectual plane.

**4 Moderate** - Patient typically is aloof, with interpersonal distance quite evident. Patient may answer questions mechanically, act bored, or express disinterest.

**5 Moderate Severe** - Disinvolvement is obvious and clearly impedes the productivity of the interview. Patient may tend to avoid eye or face contact.

**6 Severe** - Patient is highly indifferent, with marked interpersonal distance. Answers are perfunctory, and there is little nonverbal evidence of involvement. Eye and face contact are frequently avoided.

**7 Extreme** - Patient is totally uninvolved with the interviewer. Patient appears to be completely indifferent and consistently avoids verbal and nonverbal interactions during the interview.

**N4. PASSIVE/APATHETIC SOCIAL WITHDRAWAL** - Diminished interest and initiative in social interactions due to passivity, apathy, anergy or avolition. This leads to reduced interpersonal involvements and neglect of activities of daily living. Basis for rating – Reports on social behavior from primary care workers or family.

**1 Absent** - Definition does not apply

**2 Minimal** - Questionable pathology; may be at the upper extreme of normal limits

**3 Mild** - Shows occasional interest in social activities but poor initiative. Usually engages with others only when approached first by them.

**4 Moderate** – Passively goes along with most social activities but in a disinterested or mechanical way. Tends to recede into the background.

**5 Moderate Severe** - Passively participates in only a minority of activities and shows virtually no interest or initiative. Generally, spends little time with others.

**6 Severe** - Tends to be apathetic and isolated, participating very rarely in social activities and occasionally neglecting personal needs. Has very few spontaneous social contacts.

**7 Extreme** – Profoundly apathetic, socially isolated and personally neglectful.

**N5. DIFFICULTY IN ABSTRACT THINKING** - Impairment in the use of the abstract-symbolic mode of thinking, as evidenced by difficulty in classification, forming generalizations and proceeding beyond concrete or egocentric thinking in problem-solving tasks. Basis for rating - Responses to questions on similarities and proverb interpretation, and use of concrete vs. abstract mode during the course of the interview.

**1 Absent** - Definition does not apply

**2 Minimal** - Questionable pathology; may be at the upper extreme of normal limits

**3 Mild** - Tends to give literal or personalized interpretations to the more difficult proverbs and may have some problems with concepts that are fairly abstract or remotely related.

**4 Moderate** - Often utilizes a concrete mode. Has difficulty with most proverbs and some categories. Tends to be distracted by functional aspects and salient features.

**5 Moderate Severe** - Deals primarily in a concrete mode, exhibiting difficulty with most proverbs and many categories.

**6 Severe** - Unable to grasp the abstract meaning of any proverbs or figurative expressions and can formulate classifications for only the simplest of similarities. Thinking is either vacuous or locked into functional aspects, salient features and idiosyncratic interpretations.

**7 Extreme** - Can use only concrete modes of thinking. Shows no comprehension of proverbs, common metaphors or similes, and simple categories.

Even salient and functional attributes do not serve as a basis for classification. This rating may apply to those who cannot interact even minimally with the examiner due to marked cognitive impairment.

**N6. LACK OF SPONTANEITY AND FLOW OF CONVERSATION** - Reduction in the normal flow

of communication associated with apathy, avolition, defensiveness or cognitive deficit. This is manifested by diminished fluidity and productivity of the verbal interactional process. Basis for rating - Cognitive-verbal processes observed during the course of interview.

**1 Absent** - Definition does not apply

**2 Minimal** - Questionable pathology; may be at the upper extreme of normal limits

**3 Mild** – Conversation shows little initiative. Patient’s answers tend to be brief and unembellished, requiring direct and leading questions by the interviewer.

**4 Moderate** – Conversation lacks free flow and appears uneven or halting. Leading questions are frequently needed to elicit adequate responses and proceed with conversation.

**5 Moderate Severe** - Patient shows a marked lack of spontaneity and openness, replying to the interviewer’s questions with only one or two brief sentences.

**6 Severe** - Patient’s responses are limited mainly to a few words or short phrases intended to avoid or curtail communication. (e.g. “I don’t know”, “I’m not at liberty to say”). Conversation is seriously impaired as a result and the interview is highly unproductive.

**7 Extreme** - Verbal output is restricted to, at most, an occasional utterance, making conversation not possible.

**N7. STEREOTYPED THINKING** - Decreased fluidity, spontaneity and flexibility of thinking, as

evidenced in rigid, repetitious or barren thought content. Basis for rating - Cognitive-verbal processes observed during the interview.

**1 Absent** - Definition does not apply

**2 Minimal** - Questionable pathology; may be at the upper extreme of normal limits

**3 Mild** - Some rigidity shown in attitude or beliefs. Patient may refuse to consider alternative positions or have difficulty in shifting from one idea to another.

**4 Moderate** - Conversation revolves around a recurrent theme, resulting in difficulty in shifting to a new topic.

**5 Moderate Severe** - Thinking is rigid and repetitious to the point that, despite the interviewer's efforts, conversation is limited to only two or three dominating topics.

**6 Severe** – Uncontrolled repetition of demands, statements, ideas or questions which severely impairs conversation.

**7 Extreme** - Thinking, behaviour and conversation are dominated by constant repetition of fixed ideas or limited phrases, leading to gross rigidity, inappropriateness and restrictiveness of patient's communication.

**GENERAL PSYCHOPATHOLOGY SCALE (G)**(Kay, S R Fiszbein A, 1987)

**G1. SOMATIC CONCERN** - Physical complaints or beliefs about bodily illness or malfunctions. This may range from a vague sense of ill-being to clear-cut delusions of catastrophic physical disease. Basis for rating - Thought content expressed in the interview.

**1 Absent** - Definition does not apply

**2 Minimal** - Questionable pathology; may be at the upper extreme of normal limits

**3 Mild** - Distinctly concerned about health or bodily malfunction, but there is no delusional conviction and overconcern can be allayed by reassurance.

**4 Moderate** - Complains about poor health or bodily malfunction, but there is no delusional conviction, and overconcern can be allayed by reassurance.

**5 Moderate Severe** - Patient expresses numerous or frequent complaints about physical illness or bodily malfunction, or else patient reveals one or two clear-cut delusions involving these themes but is not preoccupied by them.

**6 Severe** - Patient is preoccupied by one or a few clear-cut delusions about physical disease or organic malfunction, but affect is not fully immersed in these themes, and thoughts can be diverted by the interviewer with some effort.

**7 Extreme** – Numerous and frequently reported somatic delusions, or only a few somatic delusions of a catastrophic nature, which totally dominate the patient's affect or thinking.

**G2. ANXIETY** - Subjective experience of nervousness, worry, apprehension or restlessness, ranging from excessive concern about the present or future to feelings of panic. Basis for rating - Verbal report during the course of interview and corresponding physical manifestations.

**1 Absent** - Definition does not apply

**2 Minimal** - Questionable pathology; may be at the upper extreme of normal limits

**3 Mild** - Expresses some worry, overconcern or subjective restlessness, but no somatic and behavioural consequences are reported or evidenced.

**4 Moderate** - Patient reports distinct symptoms of nervousness, which are reflected in mild physical manifestations such as fine hand tremor and excessive perspiration.

**5 Moderate Severe** - Patient reports serious problems of anxiety which have significant physical and behavioural consequences, such as marked tension, poor concentration, palpitations or impaired sleep.

**6 Severe** - Subjective state of almost constant fear associated with phobias, marked restlessness or numerous somatic manifestations.

**7 Extreme** - Patient's life is seriously disrupted by anxiety, which is present almost constantly and at times reaches panic proportion or is manifested in actual panic attacks.

**G3. GUILT FEELINGS** - Sense of remorse or self-blame for real or imagined misdeeds in the past. Basis for rating - Verbal report of guilt feelings during the course of interview and the influence on attitudes and thoughts.

**1 Absent** - Definition does not apply

**2 Minimal** - Questionable pathology; may be at the upper extreme of normal limits

**3 Mild** – Questioning elicits a vague sense of guilt or self-blame for a minor incident, but the patient clearly is not overly concerned.

**4 Moderate** - Patient expresses distinct concern over his responsibility for a real incident in his life but is not pre-occupied with it and attitude and behaviour are essentially unaffected.

**5 Moderate Severe** - Patient expresses a strong sense of guilt associated with self-deprecation or the belief that he deserves punishment. The guilt feelings may have a delusional basis, may be volunteered spontaneously, may be a source of preoccupation and/or depressed mood, and cannot be allayed readily by the interviewer.

**6 Severe** - Strong ideas of guilt take on a delusional quality and lead to an attitude of hopelessness or worthlessness. The patient believes he should receive harsh sanctions as such punishment.

**7 Extreme** - Patient's life is dominated by unshakable delusions of guilt, for which he feels deserving of drastic punishment, such as life imprisonment, torture, or death. There may be associated suicidal thoughts or attribution of others' problems to one's own past misdeeds.

**G4. TENSION** -Overt physical manifestations of fear, anxiety, and agitation, such as stiffness, tremor, profuse sweating and restlessness. Basis for rating - Verbal report attesting to anxiety and thereupon the severity of physical manifestations of tension observed during the interview.

**1 Absent** - Definition does not apply

**2 Minimal** - Questionable pathology; may be at the upper extreme of normal limits

**3 Mild** - Posture and movements indicate slight apprehensiveness, such as minor rigidity, occasional restlessness, shifting of position, or fine rapid hand tremor.

**4 Moderate** - A clearly nervous appearance emerges from various manifestations, such as fidgety behaviour, obvious hand tremor, excessive perspiration, or nervous mannerisms.

**5 Moderate Severe** - Pronounced tension is evidenced by numerous manifestations, such as nervous shaking, profuse sweating and restlessness, but can conduct in the interview is not significantly affected.

**6 Severe** - Pronounced tension to the point that interpersonal interactions are disrupted. The patient, for example, may be constantly fidgeting, unable to sit still for long, or show hyperventilation.

**7 Extreme** - Marked tension is manifested by signs of panic or gross motor acceleration, such as rapid restless pacing and inability to remain seated for longer than a minute, which makes sustained conversation not possible.

**G5. MANNERISMS AND POSTURING** – Unnatural movements or posture as characterized be an

awkward, stilted, disorganized, or bizarre appearance. Basis for rating - Observation of physical manifestations during the course of interview as well as reports from primary care workers or family.

**1 Absent** - Definition does not apply

**2 Minimal** - Questionable pathology; may be at the upper extreme of normal limits

**3 Mild** - Slight awkwardness in movements or minor rigidity of posture

**4 Moderate** – Movements are notably awkward or disjointed, or an unnatural posture is maintained for brief periods.

**5 Moderate Severe** - Occasional bizarre rituals or contorted posture are observed, or an abnormal position is sustained for extended periods.

**6 Severe** - Frequent repetition of bizarre rituals, mannerisms or stereotyped movements, or a contorted posture is sustained for extended periods.

**7 Extreme** - Functioning is seriously impaired by virtually constant involvement in ritualistic, manneristic, or stereotyped movements or by an unnatural fixed posture which is sustained most of the time.

**G6. DEPRESSION** - Feelings of sadness, discouragement, helplessness and pessimism. Basis for rating - Verbal report of depressed mood during the course of interview and its observed influence on attitude and behavior.

**1 Absent** - Definition does not apply

**2 Minimal** - Questionable pathology; may be at the upper extreme of normal limits

**3 Mild** - Expresses some sadness of discouragement only on questioning, but there is no evidence of depression in general attitude or demeanor.

**4 Moderate** - Distinct feelings of sadness or hopelessness, which may be spontaneously divulged, but depressed mood has no major impact on behavior or social functioning and the patient usually can be cheered up.

**5 Moderate Severe** - Distinctly depressed mood is associated with obvious sadness, pessimism, loss of social interest, psychomotor retardation and some interference in appetite and sleep. The patient cannot be easily cheered up.

**6 Severe** - Markedly depressed mood is associated with sustained feelings of misery, occasional crying, hopelessness and worthlessness. In addition, there is major interference in appetite and or sleep as well as in normal motor and social functions, with possible signs of self-neglect.

**7 Extreme** - Depressive feelings seriously interfere in most major functions. The manifestations include frequent crying, pronounced somatic symptoms, impaired concentration, psychomotor retardation, social disinterest, self-neglect, possible depressive or nihilistic delusions and/or possible suicidal thoughts or action.

**G7. MOTOR RETARDATION** – Reduction in motor activity as reflected in slowing or lessening of movements and speech, diminished responsiveness of stimuli, and reduced body tone. Basis for rating - Manifestations during the course of interview as well as reports by primary care workers as well as family.

**1 Absent** - Definition does not apply

**2 Minimal** - Questionable pathology; may be at the upper extreme of normal limits

**3 Mild** - Slight but noticeable diminution in rate of movements and speech. Patient may be somewhat underproductive in conversation and gestures.

**4 Moderate** - Patient is clearly slow in movements, and speech may be characterized by poor productivity including long response latency, extended pauses or slow pace.

**5 Moderate Severe** – A marked reduction in motor activity renders communication highly unproductive or delimits functioning in social and occupational situations. Patient can usually be found sitting or lying down.

**6 Severe** - Movements are extremely slow, resulting in a minimum of activity and speech. Essentially the day is spent sitting idly or lying down.

**7 Extreme** - Patient is almost completely immobile and virtually unresponsive to external stimuli.

**G8. UNCOOPERATIVENESS** - Active refusal to comply with the will of significant others, including the interviewer, hospital staff or family, which may be associated with distrust, defensiveness, stubbornness, negativism, rejection of authority, hostility or belligerence. Basis for rating - Interpersonal behavior observed during the course of the interview as well as reports by primary care workers or family.

**1 Absent** - Definition does not apply

**2 Minimal** - Questionable pathology; may be at the upper extreme of normal limits

**3 Mild** - Complies with an attitude of resentment, impatience, or sarcasm. May inoffensively object to sensitive probing during the interview.

**4 Moderate** - Occasional outright refusal to comply with normal social demands, such as making own bed, attending scheduled programs, etc. The patient may project a hostile, defensive or negative attitude but usually can be worked with.

**5 Moderate Severe** - Patient frequently is in compliant with the demands of his milieu and may be characterized by other as an “outcast” or having “a serious attitude problem”. Uncooperativeness is reflected in obvious defensiveness or irritability with the interviewer and possible unwillingness to address many questions.

**6 Severe** - Patient is highly uncooperative, negativistic and possibly also belligerent. Refuses to comply with the most social demands and may be unwilling to initiate or conclude the full interview.

**7 Extreme** - Active resistance seriously impact on virtually all major areas of functioning. Patient may refuse to join in any social activities, tend to personal hygiene, converse with family or staff and participate even briefly in an interview.

**G9. UNUSUAL THOUGHT CONTENT** - Thinking characterized by strange, fantastic or bizarre ideas, ranging from those which are remote or atypical to those which are distorted, illogical and patently absurd. Basis for rating - Thought content expressed during the course of interview.

**1 Absent** - Definition does not apply

**2 Minimal** - Questionable pathology; may be at the upper extreme of normal limits

**3 Mild** - Thought content is somewhat peculiar, or idiosyncratic, or familiar ideas are framed in an odd context.

**4 Moderate** - Ideas are frequently distorted and occasionally seem quite bizarre.

**5 Moderate Severe** - Patient expresses many strange and fantastic thoughts, (e.g. Being the adopted son of a king, being an escapee from death row), or some which are patently absurd (e.g. Having hundreds of children, receiving radio messages from outer space from a tooth filling).

**6 Severe** - Patient expresses many illogical or absurd ideas or some which have a distinctly bizarre quality (e.g. having three heads, being a visitor from another planet).

**7 Extreme** - Thinking is replete with absurd, bizarre and grotesque ideas.

**G10. DISORIENTATION** - Lack of awareness of one's relationship to the milieu, including persons, place and time, which may be due to confusion or withdrawal. Basis for rating - Responses to interview questions on orientation.

**1 Absent** - Definition does not apply

**2 Minimal** - Questionable pathology; may be at the upper extreme of normal limits

**3 Mild** - General orientation is adequate but there is some difficulty with specifics. For example, patient knows his location but not the street address, knows hospital staff names but not their functions, knows the month but confuses the day of the week with an adjacent day, or errs in the date by more than two days. There may be narrowing of interest evidenced by familiarity with the immediate but not extended milieu, such as ability to identify staff but not the mayor, governor, or president.

**4 Moderate** - Only partial success in recognising persons, places and time. For example, patient knows he is in a hospital but not its name, knows the name of the city but not the borough or district, knows the name of his primary therapist but not many other direct care workers, knows the year or season but not sure of the month.

**5 Moderate Severe** - Considerable failure in recognising persons, place and time. Patient has only a vague notion of where he is and seems unfamiliar with most people in his milieu. He may identify the year correctly or nearly but not know the current month, day of week or even the season.

**6 Severe** - Marked failure in recognising persons, place and time. For example, patient has no knowledge of his whereabouts, confuses the date by more than one year, can name only one or two individuals in his current life.

**7 Extreme** - Patient appears completely disorientated with regard to persons, place and time. There is gross confusion or total ignorance about one's location, the current year and even the most familiar people, such as parents, spouse, friends and primary therapist.

**G11. POOR ATTENTION** - Failure in focused alertness manifested by poor concentration, distractibility from internal and external stimuli, and difficulty in harnessing, sustaining or shifting focus to new stimuli. Basis for rating – Manifestations during the course of interview.

**1 Absent** - Definition does not apply

**2 Minimal** - Questionable pathology; may be at the upper extreme of normal limits

**3 Mild** - Limited concentration evidenced by occasional vulnerability to distraction and faltering attention toward the end of the interview.

**4 Moderate** - Conversation is affected by the tendency to be easily distracted, difficulty in long sustaining concentration on a given topic, or problems in shifting attention to new topics.

**5 Moderate Severe** - Conversation is seriously hampered by poor concentration, distractibility, and difficulty in shifting focus appropriately.

**6 Severe** - Patient's attention can be harnessed for only brief moments or with great effort, due to marked distraction by internal or external stimuli.

**7 Extreme** - Attention is so disrupted that even brief conversation is not possible.

**G12. LACK OF JUDGEMENT AND INSIGHT** - Impaired awareness or understanding of one's own psychiatric condition and life situation. This is evidenced by failure to recognize past or present psychiatric illness or symptoms, denial of need for psychiatric hospitalization or treatment, decisions characterized by poor anticipation or consequences, and unrealistic short-term and long-range planning. Basis for rating – Thought content expressed during the interview.

**1 Absent** - Definition does not apply

**2 Minimal** - Questionable pathology; may be at the upper extreme of normal limits

**3 Mild** - Recognizes having a psychiatric disorder but clearly underestimates its seriousness, the implications for treatment, or the importance of taking measures to avoid relapse. Future planning may be poorly conceived.

**4 Moderate** - Patient shows only a vague or shallow recognition of illness. There may be fluctuations in acknowledgement of being ill or little awareness of major symptoms which are present, such as delusions, disorganized thinking, suspiciousness and social withdrawal. The patient may rationalize the need for treatment in terms of its relieving lesser symptoms, such as anxiety, tension and sleep difficulty.

**5 Moderate Severe** - Acknowledges past but not present psychiatric disorder. If challenged, the patient may concede the presence of some unrelated or insignificant symptoms, which tend to be explained away by gross misinterpretation or delusional thinking. The need for psychiatric treatment similarly goes unrecognized.

**6 Severe** - Patient denies ever having had a psychiatric disorder. He disavows the presence of any psychiatric symptoms in the past or present and, though compliant, denies the need for treatment and hospitalization.

**7 Extreme** - Emphatic denial of past and present psychiatric illness. Current hospitalization and treatment are given a delusional interpretation (e.g. as punishment for misdeeds, as persecution by tormentors, etc), and the patient thus refuse to cooperate with therapists, medication or other aspects of treatment.

**G13. DISTURBANCE OF VOLITION** – Disturbance in the willful initiation, sustenance and control of one’s thoughts, behavior, movements and speech. Basis for rating - Thought content and behavior manifested in the course of interview.

**1 Absent** - Definition does not apply

**2 Minimal** - Questionable pathology; may be at the upper extreme of normal limits

**3 Mild** - There is evidence of some indecisiveness in conversation and thinking, which may

impede verbal and cognitive processes to a minor extent.

**4 Moderate** - Patient is often ambivalent and shows clear difficulty in reaching decisions. Conversation may be marred by alteration in thinking, and in consequence, verbal and cognitive functioning are clearly impaired.

**5 Moderate Severe** - Disturbance of volition interferes in thinking as well as behavior. Patient shows pronounced indecision that impedes the initiation and continuation of social and motor activities, and which also may be evidence in halting speech.

**6 Severe** - Disturbance of volition interferes in the execution of simple automatic motor functions, such as dressing or grooming, and markedly affects speech.

**7 Extreme** – Almost complete failure of volition is manifested by gross inhibition of movement and speech resulting in immobility and/or mutism.

**G14. POOR IMPULSE CONTROL** - Disordered regulation and control of action on inner urges, resulting in sudden, unmodulated, arbitrary or misdirected discharge of tension and emotions without concern about consequences. Basis for rating – Behavior during the course of interview and reported by primary care workers or family.

**1 Absent** - Definition does not apply

**2 Minimal** - Questionable pathology; may be at the upper extreme of normal limits

**3 Mild** - Patient tends to be easily angered and frustrated when facing stress or denied gratification but rarely acts on impulse.

**4 Moderate** - Patient gets angered and verbally abusive with minimal provocation. May be occasionally threatening, destructive, or have one or two episodes involving physical confrontation or a minor brawl.

**5 Moderate Severe** - Patient exhibits repeated impulsive episodes involving verbal abuse, destruction of property, or physical threats. There may be one or two episodes involving serious assault, for which the patient requires isolation, physical restraint, or p.r.n. sedation.

**6 Severe** - Patient frequently is impulsive aggressive, threatening, demanding, and destructive, without any apparent consideration of consequences. Shows assaultive behavior and may also be sexually offensive and possibly respond behaviorally to hallucinatory commands.

**7 Extreme** - Patient exhibits homicidal, sexual assaults, repeated brutality, or self-destructive behavior. Requires constant direct supervision or external constraints because of inability to control dangerous impulses.

**G15. PREOCCUPATION** - Absorption with internally generated thoughts and feelings and with autistic experiences to the detriment of reality orientation and adaptive behavior. Basis for rating - Interpersonal behavior observed during the course of interview.

**1 Absent** - Definition does not apply

**2 Minimal** - Questionable pathology; may be at the upper extreme of normal limits

**3 Mild** - Excessive involvement with personal needs or problems, such that conversation veers back to egocentric themes and there is diminished concern exhibited toward others.

**4 Moderate** - Patient occasionally appears self-absorbed, as if daydreaming or involved with internal experiences, which interferes with communication to a minor extent.

**5 Moderate Severe** - Patient often appears to be engaged in autistic experiences, as evidenced by behaviors that significantly intrude on social and communicational functions, such as the presence of a vacant stare, muttering or talking to oneself, or involvement with stereotyped motor patterns.

**6 Severe** - Marked preoccupation with autistic experiences, which seriously delimits concentration, ability to converse, and orientation to the milieu. The patient frequently may be observed smiling, laughing, muttering, talking, or shouting to himself.

**7 Extreme** - Gross absorption with autistic experiences, which profoundly affects all major realms of behavior. The patient constantly may be responding verbally or behaviorally to hallucinations and show little awareness of other people or the external milieu.

**G16. ACTIVE SOCIAL AVOIDANCE** - Diminished social involvement associated with unwarranted fear, hostility, or distrust. Basis for rating - Reports of social functioning primary care workers or family.

**1 Absent** - Definition does not apply

**2 Minimal** - Questionable pathology; may be at the upper extreme of normal limits

**3 Mild** - Patient seems ill at ease in the presence of others of others and prefers to spend time alone, although he participates in social functions when required.

**4 Moderate** - Patient begrudgingly attends all or most social activities but may needs to be persuaded or may terminate prematurely on account of anxiety, suspiciousness, or hostility.

**5 Moderate Severe** - Patient fearfully or angrily keeps away from many social interactions despite others' efforts to engage him. Tends to spend unstructured time alone.

**6 Severe** - Patient participates in very few social activities because of fear, hostility, or distrust. When approached, the patient shows a strong tendency to break off interactions, and generally he tends to isolate himself from others.

**7 Extreme** - Patient cannot be engaged in social activities because of pronounced fears, hostility, or persecutory delusions. To the extent possible, he avoids all interactions and remains isolated from others.

## Appendix F

### Recommended Element of CBT for Psychosis

Recommended Element of CBT for Psychosis (Morrison & Barratt, 2010):

<b>Engagement</b>		
Interventions should be informed by client feedback	G	2
Normalizing of psychotic symptoms should be used to reduce stigma and improve engagement	G	2
The client should be allowed and encouraged to express positive and negative reactions regarding therapy	G	2
Collaborative feedback should be used to engage the client	G	2
CBT should require consistent collaboration throughout the sessions	G	2
CBT should be implemented using a collaborative approach	G	2
The client should be engaged in the therapeutic relationship	G	2
CBT should take into account the clients' perspective and "world view"	G	2
Account always needs to be taken of presenting symptomatology, past experiences of services and cultural/family issues in engagement	G	2
The rationale of CBT should be explained and demonstrated to the client	S	2
<b>Structure and principles</b>		
CBT should aim to reduce distress and improve quality of life	G	2
Summaries and feedback should be used to structure the session	G	2
CBT sessions should always be accommodated to the client's needs and	G	2
<b>speed of learning</b>		
CBT should aim to reduce distress and prevent future distress	G	2
CBT should aim to elicit hope in recovery	G	2
CBT should consult the client regarding the terminology used to explain their experience	G	2
CBT should end in a planned manner and plan for long-term maintenance of gains after treatment	G	2
Session structure and content should be decided jointly between client and therapist	G	2
The client should be given a chance to explain his or her own model	G	2

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first		
The client should make choices and take appropriate responsibility for the CBT sessions	G	2
CBT should assist the maintenance of a client's capacity to make informed decisions about their lives	G	3
The client and therapist should jointly agree a problem list	S	2
Appropriate flexibility needs to be given in constructing agendas, targets, and problem lists according to client's capacities, inclinations, and motivations	S	2
Guided discovery and Socratic questioning should be used to elicit key cognitions/images	S	2
Guided discovery should be used to help the client gain understanding	S	2
Agreed short- and long-term goals should underpin the intervention	S	2
Items on the agenda must be appropriate, clear and discrete, consistent with the formulation and conceived to take therapy forward	S	2
Goals should be SMART (specific, measurable, achievable, Realistic and Time limited)	S	2
CBT should help the client consider a range of perspectives regarding his/her experience	S	2
CBT for psychosis should be founded upon the principles of evidence-based practice and value-based practice	S	3
CBT should help the client develop hypotheses regarding his/her current situation and to generate	S	2
<b>potential solutions for him/herself</b>		
The client should be encouraged to prioritize the items on the agenda	S	2
Socratic questioning, diaries, and monitoring procedures should help the client reflect upon and explore new meanings about their thinking, behavior, and context	S	2
Major brief summaries should occur at the beginning and end of each session	S	2
Over the course of therapy, a client should work toward becoming their own therapist	S	2
<b>Formulation</b>		
A good collaborative relationship must be formed to help develop a comprehensive formulation	G	2
A balanced conceptualization should highlight the client's strengths	G	2

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The therapist must avoid overcomplex ‘kitchen sink’ formulation and intervention	G	2
CBT should develop a formulation of the client's difficulties and use psychological mechanisms to understand the processes that are controllable in relapse	G	2
A formulation should be developed and used to outline a treatment plan	G	2
Conceptualization should draw together current concerns, vulnerabilities, strengths, precipitating and perpetuating factors	S	2
A cognitive behavioral maintenance cycle should be devised and used to set targets for intervention	S	2
In order for effective CBT to occur, the conceptualization must be appropriate and shared	S	2
<b>Assessment and model</b>		
CBT must identify the needs of the client and competency of the therapist before undertaking in-depth therapeutic work	G	3
CBT should be idiosyncratic to the individual client	S	2
CBT should examine the role that behaviors have in triggering and maintaining the clients difficulties	S	2
CBT should help a client to identify and elicit those thoughts, images, and beliefs that are fundamental to their distress (ie, the key cognitions)	S	2
CBT should elicit any behavioral features that contribute to the maintenance of the client's problems	S	2
CBT ought to elicit and examine behavioral patterns such as “safety seeking behaviors” in relation to the relevant emotions associated with them	S	2
CBT should elicit and assess the intensity of emotions associated with a particular situation or cognition	S	3
The therapist should make a full mental health assessment with attention to key cognitive, behavioral and emotional issues	S	3
The role of safety-seeking behaviors should be demonstrated	S	2
CBT should identify emotional issues that interfere with effective change (eg, hostility, anxiety, excessive anger)	S	2
<b>Homework</b>		
“Homework” should be a “standing” item on the agenda	S	2
Homework assignments ought to act as a bridge between therapy and	S	3

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the real world		
Practical plans (ie, practical homework) should be developed with the client to facilitate effective change	S	3
Practice assignments (“homework”) should be planned and reviewed	S	2
Clients should be provided with an organic summary of the main ‘findings’ from the therapy to review at home	S	2
If clients fail to complete agreed between-session activities, the therapist should take at least equal responsibility for this happening and renegotiate	S	2
<b>Change strategies</b>		
Therapists should use elements of self-disclosure to help normalize clients’ psychotic symptoms	G	2
Beliefs in omniscience and omnipotence of command hallucinations should be explored and debated	S	2
The therapist should work directly with content of voices to explore its relationship to life experiences and beliefs about the self	S	2
CBT should help a client modify core beliefs/schemas and associated behavior	S	2
Beliefs about hallucinatory mechanisms should be systematically explored and normalized, eg, reasons for external attribution and individual nature of experience	S	2
Logging pros and cons should be used to explore voices	S	2
Self-report measures and self-monitoring ought to guide therapy and monitor outcome	S	2
The client should learn to monitor features of his/her experience and gain further insight through the data-gathering process	S	3
With CBT, the client should be supported to explore alternative explanations of experiences that may be more adaptive and less distressing	S	2
CBT should identify and work with safety behaviors	S	2
Experiments should be devised to test beliefs by modifying safety behaviors	S	2
CBT should recognize and manage obstacles that a client brings to therapy	S	2
<b>Therapist assumptions</b>		
Therapists should believe that many people experience psychotic-like	G	2

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symptoms without feeling distressed by them		
Therapists should have a good understanding of recovery from psychosis	G	2
Therapists ought to believe that delusions can be quite understandable	G	2
Therapists should believe that it is not the hallucination or the delusion per se that is clinically relevant but the amount of distress or disability associated with it	G	2
Therapists ought to believe that hallucinations or thought disorder can happen to anyone if they are very stressed	G	2
Therapists ought to view most symptoms of psychosis as quite common in the normal population		

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مرضى الفصام العقلي: بحث شبه تجريبي

إعداد

سلسبيل سميح هاشم زماعره

إشراف

د. عدنان سرحان

قدمت هذه الرسالة استكمالاً لمتطلبات الحصول على درجة الماجستير في ترميض الصحة النفسية المجتمعية،  
من كلية الدراسات العليا، في جامعة النجاح الوطنية، نابلس - فلسطين.

2024

أثر العلاج المعرفي السلوكي في علاج الهلوسات والأوهام عند مرضى الفصام العقلي:

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### الملخص

**خلفية الدراسة:** الفصام العقلي يعتبر من الاسباب الرئيسية للإعاقة حول العالم، حيث يؤثر تقريبا على 1% من سكان العالم. العلاج المعرفي السلوكي للذهان يعتبر من الطرق العلاجية الفعالة، حيث ثبتت فعاليته في تخفيف الاعراض وتحسين جودة الحياة لمرضى الذهان. حيث يهدف العلاج المعرفي السلوكي الى تحسين الحالة الوظيفية للمرضى من خلال تخفيف الاعراض المرضية التي تتضمن الاوهام، الهلوسات، والاضطرابات الذهنية.

**أهداف الدراسة:** هذه الدراسة عبارة عن بحث شبه تجريبي تم القيام به في عيادة الصحة النفسية في مدينة الخليل، حيث بدأت في شهر يناير وانتهت في شهر مارس من عام 2023. تم استخدام مقياسين لتقييم حالة المرضى: مقياس تصنيف اعراض الذهان، ومقياس الاعراض الايجابية والسلبية، وتم التحليل باستخدام برنامج SPSS النسخة 28.

**نتائج الدراسة:** أظهرت نتائج الدراسة ان مجموعة التدخل الطبي اظهرت تحسن ذو دلالة احصائية عالية في نتائج ما بعد التدخل العلاجي بالنسبة للهلوسات والأوهام ومقياس الفصام العقلي العام مقارنة بمجموعة التحكم، بالإضافة الى ذلك وجد عند مجموعة التدخل تحسن ملحوظ في نسبة التوتر والقلق. لم يتم العثور

على اختلافات إحصائية في النتائج المتعلقة بالهلوسات، الأوهام، شدة الفصام والتوتر والقلق بالنسبة عبر مختلف المجموعات الديموغرافية من المشاركين.

**استنتاجات الدراسة:** تسلط نتائج هذه الدراسة الضوء على المساهمة المحورية للعلاج المعرفي السلوكي في الانخفاض الكبير في أعراض الذهان العامة، وخاصة في الأعراض الإيجابية التي تتضمن الهلوسة السمعية والأوهام. يساهم هذا العمل في الأدلة المتزايدة التي تدعم تكييف التدخلات التي تم التحقق منها وفعالية وقبول العلاج المعرفي السلوكي في علاج الذهان عند مرضى الفصام العقلي.

**الكلمات المفتاحية:** الأوهام، الهلوسات، الذهان، العلاج السلوكي المعرفي.