ORIGINAL ARTICLE

CONTENTS

Treatment of delusional ideas: Analyzing the effectiveness of pharmacotherapy and psychotherapeutic methods

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ABSTRACT

Aim: To investigate the etiology, pathogenesis, and effectiveness of pharmacotherapy and psychotherapeutic modalities of delusions in Schizophrenia spectrum and other Psychotic Disorders.

Materials and Methods: In our study, we included English-language studies from online databases such as Web of Science, Scopus, Google Scholar, PubMed, and the Cochrane Library conducted until January 2024 using the following keywords "delusions", "Schizophrenia spectrum and other Psychotic Disorders", "pharmacotherapy", "psychotherapy", and "antipsychotics".

Scientific novelty: There is already published evidence that has studied Schizophrenia spectrum disorders from definition to treatment. However, a lack of studies has identified a comprehensive analysis of the available therapies for managing this condition. In our article, we studied Schizophrenia spectrum disorders and evaluated the role of both pharmacotherapy and psychotherapy in managing this condition.

Conclusions: The management of delusions requires combined pharmacotherapy and psychotherapy. Cognitive therapy combined with antipsychotics has a significant beneficial role in improving delusions. Further randomized trials are required to properly estimate the efficacy of the available therapies and determine the first-choice therapy in patients with different categories of Schizophrenia spectrum disorders.

KEY WORDS: delusions, antipsychotics, pharmacotherapy, psychotherapy, Schizophrenia spectrum disorders

Wiad Lek. 2024;77(12):2501-2509. doi: 10.36740/WLek/195547 DOI

INTRODUCTION

Delusion is a persistently incorrect belief that is based on a faulty perception of the outside world in spite of evidence to the contrary. This false belief often contradicts the patient's culture and subculture, and almost everyone else is aware that it is untrue [1]. Delusion is the hallmark of schizophrenia disorder, and it is among the primary diagnostic criteria for this disease. It can appear in patients with stroke, neurodegenerative illnesses, nervous system abnormalities, brain trauma, and other psychological diseases [2]. Delusions may negatively affect functioning and independent living and have been associated with higher carer load, lower medication compliance, and an overall deteriorating prognosis across conditions [3,4]. A person is diagnosed with Schizophrenia spectrum Disorder if one or more non-bizarre (possible, albeit unlikely real-world events) delusional thoughts are present for a month or longer. They cannot be explained by any other physiological, drug-induced, medical, or mental health condition, in addition to the cultural beliefs of each patient, which aid in the delusions diagnosis [5].

Delusions can be classified into various categories and types, but the most frequent types are grandiosity, jealousy, erotomania, religious, delusion of reference, bizarre, persecutory, somatic, thought insertion, thought broadcasting, and mixed type with no single dominant type [6]. More specific types of delusions have also been seen throughout diseases, such as Othello's syndrome (delusional jealousy concerning family members) and Capgras delusion (thinking family members have been switched with a look-alike) [7]. Delusions are involved in various psychotic disorders. However, there is usually a dominant type of delusion in each disorder. Patients with bipolar disorder typically have delusions of grandiosity, while those with depression suffer from delusions of guilt. In contrast, persecutory delusions are dominant in schizophrenia. Chronic psychotic disorders are often associated with delusions of thought broadcasting, insertion, or withdrawal [8,9]. Unfortunately, patients with delusions do not seek medical advice because of their ego-syntonic delusions, which are defined as a lack of insight [10]. Patients often notice social and occupational disruption and are urged to seek therapy by anxious family members.

Treatment depends mainly on combining antipsychotic medications and psychotherapy with a good and trusted doctor-patient relationship. An assessment of the antipsychotic's efficacy should be conducted after a six-week trial period and trial use [11]. Once you reach the desired level, titrate up. If, after six weeks, no improvement is shown with the first course of therapy, a different medication from a different class might be attempted [12]. In this review, we aim to study the molecular and neurophysiological mechanisms of delusions and analyze the effectiveness of pharmacotherapy and psychotherapeutic methods.

AIM

The study is conducted to investigate the aetiology, pathogenesis, and effectiveness of pharmacotherapy and psychotherapeutic modalities for Schizophrenia spectrum disorders, with a focus on delusions.

RESEARCH FOCUS

Our review focused on studying delusions in terms of the definition, etiology, pathogenesis, and treatment modalities.

RESEARCH PROBLEM

Although combined pharmacotherapy and psychotherapy showed many benefits in patients with Schizophrenia spectrum disorders, there are still no clear guidelines for managing this condition. The accuracy of delusion incidence is compromised, as it can manifest both as an isolated disorder and as part of other mental illnesses.

RESEARCH QUESTIONS

1. What are delusions?
2. What is the pathogenesis of Schizophrenia spectrum disorders?
3. What are the etiology and theories that explain delusions?
4. What are the most effective pharmacotherapy and psychotherapy that can improve delusions?

MATERIALS AND METHODS

Delusion is defined as a fixed false belief rooted in an inaccurate understanding of the external world, persisting despite contradicting evidence. This belief often diverges from the patient's cultural or subcultural norms, with most individuals recognizing its inaccuracy. Delusions are categorized into several types, including grandiosity, jealousy, erotomania, religion, the delusion of reference, bizarre delusions, persecutory, somatic, thought insertion, thought broadcasting, and mixed types without a dominant category. Patients experiencing delusions often avoid seeking medical help due to their ego-syntonic nature, characterized by a lack of insight. Treatment approaches primarily involve a combination of antipsychotic medication, psychotherapy, and the establishment of a strong therapeutic alliance.

INCLUSION CRITERIA

1. Studies of all designs, including case series, randomized clinical trials, case-control studies, and systematic reviews, are included.
2. Articles evaluating Schizophrenia spectrum disorders concerning definitions, aetiology, and treatment modalities are selected.
3. Priority is given to studies published between 2018 and 2023.

EXCLUSION CRITERIA

1. Articles not subjected to peer review, including proposals, procedures, letters, and opinion pieces, are excluded.
2. Studies conducted prior to 2010 are not considered.
3. Studies unrelated to the topic or with aims misaligned with the research objective are omitted.
4. Research involving organic disorders, psychoactive substance users, individuals with mental retardation, elderly populations, and children is excluded. The analysis is limited to adult patients aged 18 to 60 years with Schizophrenia spectrum disorders to narrow the focus.

DATABASES AND SEARCH STRATEGY

The following online databases were utilized: Web of Science, Scopus, Google Scholar, PubMed, and the Cochrane Library. The search employed keyword combinations such as "delusions," "antipsychotics," "pharmacotherapy," "psychotherapy," and "Schizophrenia spectrum disorders." Studies conducted until January 2024 were collected to ensure an unbiased selection of publications. References were selected based on their relevance to the research topic.

STUDY SCREENING AND REVIEW PROCESS

The review process was conducted in three stages. Initially, EndNote Software was used to import search results from electronic databases into a Microsoft Excel sheet. Titles and abstracts of the entries were screened

during the second stage. The full texts of citations from the previous stage were examined in the third stage. Additionally, references from the included publications were manually reviewed to identify potentially overlooked studies.

DATA ANALYSIS

A qualitative review of previously published studies was conducted. Quantitative analysis was not performed due to the research being a narrative review. The requirements for quantitative analysis, including specifying measurable outcomes and locating and comparing data from at least two relevant studies, were not met. Despite attempts at quantitative analysis, relevant and comparable data were not identified. Instead, qualitative analysis was performed to present and compare findings from relevant papers, ensuring strong evidence and updated conclusions.

REVIEW AND DISCUSSION

Delusion is a significant mental condition marked by the existence of a persistent, preoccupying, irrational belief. It is a psychotic condition that is part of the schizophrenia spectrum diseases [13]. It is believed that it is among the most severe manifestations of mental disorders in clinical practice [14]. Delusional ideas cannot be eradicated by education or persuasion since they depend on a misperception of external reality. Perception disorders or affective symptoms might occasionally accompany delusions, although they are not the main focus of the condition [15]. There are two categories of delusions: organic and functional. The organic delusion usually could be explained by brain injury (such as lesions to the right cerebral hemisphere), whereas a functional delusion could be explained by psychodynamic or motivational causes. However, nowadays, most forms of delusions are caused by certain biological and psychological variables, while further research may be needed to determine these components precisely and identify how they interact [14].

Due to the fact that delusions may manifest as an isolated disorder or as a component of psychological disease, obtaining the accurate and appropriate incidence data is challenging. However, it is estimated that the overall morbidity due to Schizophrenia spectrum disorders is 0.05-0.1%. According to the DSM-V, about 0.02% of people will have Schizophrenia spectrum disorders at some point in their lives. Compared to other conditions such as bipolar disorder, schizophrenia, and other mood disorders, isolated Schizophrenia spectrum disorders are far less common. This may be attributed to the under-reporting of the disorder because individuals suffering from Schizophrenia spectrum disorders may not seek mental health treatment unless forced to do so by friends or family. Delusions may present at any age from 18 to 90 years, with an average age of 40 years. Studies showed that males are more likely to suffer from paranoid delusions, persecutory, and jealous types of delusions. In contrast, women usually have delusions of erotomania [16]. While the global prevalence of schizophrenia exhibits variations, it is generally estimated that around 1% of adults are affected by the disorder. In the United States, the prevalence ranges from 0.6% to 1.9% [17]. Men tend to receive diagnoses more frequently and experience an earlier onset compared to women. Additionally, there is a higher incidence of schizophrenia among African-Caribbean migrants and their descendants [18]. Despite the increased interest in delusion and numerous attempts to understand this phenomenon properly, a clear cause explaining its occurrence remains elusive. Patients with Schizophrenia spectrum disorders were found to have impaired limbic system and basal ganglia with intact and functioning cortex [16]. Delusions may be brought on by a variety of biological situations, including drug abuse, illnesses, and neurological disorders [19,20]. Psychodynamic theories about delusional disease include hypersensitive individuals and ego defense strategies such as projection, denial, and response formation. A person who experiences social isolation, jealousy, mistrust, suspicion, and poor self-esteem may develop a delusion as a coping mechanism when these things become untenable. Furthermore, Delusions are prevalent among some demographics, such as elderly people, deaf and visually impaired people, as well as immigrants with language difficulties [21]. Different theories may explain the occurrence of delusions as follows: it is supposed that in the brain network, 'signal to noise' disparities may rise due to enhanced dopaminergic transmission; as a result, this excessive dopamine status emerges as a propensity to give personal relevance to unconnected external events [22]. This disrupted dopaminergic activity may affect motivation, focus, attitude, and social relationships. Certain areas of the brain may be incorporated into delusion thoughts, such as the ventral striatum, ventromedial prefrontal cortex, dorsolateral prefrontal cortex, substantia nigra, hippocampus, and mesolimbic pathways [23]. Previous research demonstrated the significant role of dopamine antagonists in decreasing the severity of delusions, which proved the evidence of the involvement of excess dopamine in the neurobiology of delusion [24].

Delusional ideas represent a significant facet of several psychiatric disorders, with their prominence notably observed in conditions such as schizophrenia,

Table 1. Shows a general data about delusional ideas

Characteristics	Schizophrenia	Schizoaffective Disorder	Acute Polymorphic Psychotic Disorder with Schizophrenia Symptoms	Delusional disorder
Prevalence	Approximately 1% of the global population	Estimated to be less common than schizophrenia	Limited prevalence data, often considered rare	is about 0.02%
Types of Delusional Ideas	Paranoid delusions	Paranoid delusions	Polymorphic delusions (varying themes)	Persecutory delusion. Delusion of grandeur
	Grandiose delusions	Grandiose delusions	Persecutory delusions	Delusional jealousy Erotomania or delusion of love
	Persecutory delusions	Persecutory delusions	Grandiose delusions	Somatic delusional disorder Induced delusional disorder
	Referential delusions	Referential delusions	Referential delusions	Bizarre delusion – Refers to delusion that is implausible or bizarre such as alien invasion.
Onset of Disease	Usually, in late adolescence or early adulthood	Can occur at any age, but often in late adolescence	Sudden onset, typically acute and brief, Symptoms may emerge following severe stressors, Criteria include hallucinations, disorganized speech, and grossly disorganized or catatonic behavior	has a later age of onset
Hypotheses of Occurrence	Neurodevelopmental factors	Genetic and neurobiological factors	Stress-related factors may contribute to onset	substance use
	Genetic predisposition	Dysregulation in neurotransmitter systems	Genetic vulnerability, environmental stressors, and	medical conditions
	Neurochemical imbalances	Environmental stressors and trauma	alterations in neurotransmitter systems may play a role	neurological conditions
Pharmacotherapeutic Approaches	Antipsychotic medications	Antipsychotic medications	Antipsychotic medications (short-term)	Antipsychotic drugs,
	Atypical antipsychotics are often preferred	Mood stabilizers (for mood component)	Short-term use of antipsychotics to manage symptoms	mood-stabilizing medications
	May include combination therapy	Antidepressants (for depressive component)	Medications may be tapered as symptoms resolve	antidepressants medications
			Supportive care and monitoring for potential recurrence	
Psychotherapeutic Approaches	Cognitive-behavioral therapy (CBT)	Individual and group therapy	Supportive psychotherapy during acute phase	Supportive psychotherapy
	Family therapy	Cognitive-behavioral therapy (CBT)	Psychoeducation to enhance coping skills and resilience	cognitive behavioral therapy (CBT)
	Supportive psychotherapy	Supportive psychotherapy	Family involvement in understanding and supporting the individual's recovery process	

Source: author's development.

delusional disorder, schizoaffective disorder, and acute polymorphic psychotic disorder with schizophrenia symptoms. These disorders are characterized by disruptions in thought processes, emotions, and perceptions, leading to a distorted understanding of reality.

Schizophrenia, a severe and chronic psychiatric disorder, is marked by a diverse range of symptoms, among which delusions are key diagnostic criteria. Individuals with schizophrenia often experience profound disruptions in their thought processes, leading to the development of delusional ideas that may manifest as paranoid, grandiose, or persecutory in nature. Schizoaffective disorder, a condition exhibiting features of both schizophrenia and mood disorders, similarly incorporates delusions into its clinical presentation, further complicating the landscape of cognitive and affective disturbances [25].

Acute polymorphic psychotic disorder with schizophrenia symptoms represents a transient but intense manifestation of psychotic symptoms, including delusions, resembling those seen in schizophrenia. This disorder is characterized by its sudden onset and polymorphic nature, with symptoms varying across different psychotic features. Understanding the nuances of delusional ideas within these psychiatric conditions is crucial for both clinicians and researchers seeking effective interventions and a deeper comprehension of the complex interplay between cognition, perception, and emotional regulation in these disorders [26].

This exploration of delusional ideas in schizophrenia, delusional disorder, schizoaffective disorder, and acute polymorphic psychotic disorder with schizophrenia symptoms aims to shed light on the intricacies of these psychiatric phenomena. By delving into the unique manifestations and implications of delusions in each disorder, we hope to contribute to a comprehensive understanding of these mental health conditions, facilitating improved diagnostic accuracy and targeted treatment strategies for individuals grappling with the challenges posed by delusional thinking (Table 1) [27].

In this theory, it is supposed that delusions represent the outward expression of unresolved conflicts between the superego, ego, and id, the person's psychological agencies. In 1992, Roberts provided a model of three phases. The pre-psychotic is the first stage in which stress exposure acts as the antecedent in an individual who has an underlying susceptibility or tendency to a psychotic type of disorder. Then, the patient proceeds to the second stage, in which delusions develop when the individual starts to have different or unusual feelings, and these concepts and feelings are given a personal significance. Eventually, delusions are established and expanded, thus involving their relevant thoughts and ideas in the patient's thinking [28].

This includes the salience hypothesis, which claims that delusions arise from an unbalanced attention pattern, whereby particular aspects of a situation get more attention than relevant data, yielding distorted decision-making as a result. The two-factor hypothesis elaborates on this concept, claiming that delusions must be supported by both salience and flawed cognition [29,30]. These poor perceptual-cognitive processes may be related to a 'jumping to conclusions' propensity. People with this tendency to analyze information quickly before making judgments are more prone to ignore or misunderstand facts with more assurance of their choices. As a result, the false fixed belief is established, and the false logic impairs the perception which maintains the distinctive significance given to individuals, locations, and circumstances. Because of this, the patient's overall perceptions and conclusions become less accurate, which affects information integration and processing and raises the possibility of incorrect stimulus interpretations. According to brain network theory, problems integrating perception, cognition, and emotion result from disconnections between key components of the default mode and semantic networks, which prevents cognitive resources from being used effectively.

Trauma, especially that which involves interpersonal violence, has been associated with an increased chance of developing psychosis and delusions. The growing brain is altered by early childhood trauma. These changes include the hippocampus shrinking, the amygdala becoming hyperarousal, changes in neurotransmitters such as dopamine, GABA, and glutamate, and an increase in diathesis towards delusional symptoms.

When compared to other conditions, global functionality is often maintained to some extent. Impairment may have a major impact on a patient's lifestyle. Social isolation might exist. Persecutory type is among the most prevalent delusion categories in which the patient becomes aggressive, anxious, and irritable. In contrast, in the jealous type, men are more affected, and they usually have homicidal and suicidal thoughts, which require meticulous care and management. The erotomanic type involves the belief that a person is in love with the patient. These individuals often exhibit poor social and career functioning, sexual inhibition, dependency, and social withdrawal. Males with this type often become more aggressive. The somatic type is the most deteriorating type, with a major negative impact on the patient's lifestyle. The patient believes that he has severe symptoms without any evidence of real disease. Delusion parasitosis is the most prevalent type of somatic delusion in which the patient believes

Table 2. Comparative Overview of Pharmacological and Psychotherapeutic Treatments across Psychotic Disorders

Treatment Approach	Schizophrenia	Schizoaffective Disorder	Acute Polymorphic Psychotic Disorder with Schizophrenia Symptoms	Delusional disorder
Antipsychotic Medications	- Risperidone: 2-6 mg/day	- Aripiprazole: 10-30 mg/day	- Olanzapine: 10-20 mg/day	- Clozapine: 300-900 mg/day
	- Olanzapine: 10-20 mg/day	- Quetiapine: 150-300 mg/day	- Quetiapine: 150-300 mg/day	- Aripiprazole: 10-30 mg/day
	- Quetiapine: 300-800 mg/day	- Olanzapine: 10-20 mg/day	- Risperidone: 2-4 mg/day	- Olanzapine: 10-20 mg/day
	- Clozapine: 300-900 mg/day	- Lithium: Blood levels maintained at 0.6-1.2 mEq/L	- Aripiprazole: 10-30 mg/day	- Quetiapine: 300-800 mg/day
	- cariprazine: 1.5 mg	- Clozapine: 300-900 mg/day		- Risperidone: 2-4 mg/day
		- Antipsychotic medications adjusted based on symptomatology		
Psychotherapeutic Approaches	- Cognitive-behavioral therapy (CBT)	- Individual and group therapy	- Supportive psychotherapy during acute phase	Cognitive behavioral therapy (CBT)
	- Family therapy	- Cognitive-behavioral therapy (CBT)	- Psychoeducation to enhance coping skills and resilience	- Individual and group therapy
	- Supportive psychotherapy	- Supportive psychotherapy	- Family involvement in understanding and supporting the individual's recovery process	Family-focused therapy
	- Positive psychotherapy in the period of remission for more than a year		- Eye Movement Desensitization and Reprocessing (EMDR) for trauma-related symptoms	
	- Gestalt psychotherapy to explore current experiences and promote self-awareness		- Gestalt psychotherapy to explore current experiences and promote self-awareness	

Source : author's development.

he has an infection with a worm, parasite, fungus, bacteria, mites, or other living organisms. Patients with the grandiose type have increased self-importance, while those with mixed type have two or more dominant categories. The unspecified type is considered when there is no dominant delusional theme [5].

Like most other psychological diseases, there are no specific labs or tests that can diagnose or identify Schizophrenia spectrum disorders. However, all reported laboratory tests and imaging modalities aim mainly to exclude any organic etiology. Proper genetic and family history taking may help detect susceptible patients. History of recent head trauma may be associated with the subsequent development of delusions. A urine drug screen may be conducted to rule out substance-induced delusions. Complete mental examination should be considered after excluding organic causes of delusions [5,31].

The lack of insight is the main challenge in the management of patients with delusions. It is doubtful that direct efforts to address delusions would be helpful and might yield considerable distress to the patient [32]. Due to the integrated neuropsychiatric framework of delusion, the proper treatment requires an integrated management of both the psychological and biological aspects simultaneously. The biological element is remitted by using antipsychotic medicine to reduce mesolimbic dopamine release. Since there is less dopamine released into the brain, stimuli in the environment are given less weight and are given a more individualized interpretation. Reevaluating the stimuli and allocating attention more precisely allows the individual to minimize the intensity of salience. This lowers the degree of over-personalized meaning and promotes a more realistic assessment of the circumstances. The psychological aspect is also important in those patients. Antipsychotic drugs showed great benefits in those patients. The efficacy of these medications may be investigated after a six-week trial period and trial use. Once the patient reaches the desired level with no improvement after six weeks, a different medication from a different class might be attempted. Other medications, such as carbamazepine, valproic

acid, and lithium, may be utilized as adjuvant therapy to the primary antipsychotic drugs if the monotherapy fails to control the condition (Table 2) [12].

To the best of our knowledge, there are no established guidelines or licensed medications for Schizophrenia spectrum disorders and schizophrenia. Antipsychotic medications showed a considerable benefit in managing patients with various psychotic disorders such as Schizophrenia spectrum disorders, schizophrenia, mania, major depressive disorder with psychotic features, agitation, Tourette, dementia, and delirium. First-generation antipsychotics (FGAs), also known as typical antipsychotics, act by antagonizing the dopamine receptors. They include various medications such as butyrophenones (haloperidol), phenothiazines (mesoridazine, trifluoperazine, acetophenazine, prochlorperazine, triflupromazine, perphenazine), dihydroindoles (molindone), dibenzoxazepines (loxapine), thioxanthenes (thiothixene, chlorprothixene), and diphenylbutylpiperidines (pimozide) [33–34]. In contrast, second-generation antipsychotics (SGAs), also known as atypical antipsychotics, act as serotonin-dopamine antagonists. Twelve atypical antipsychotic medications were approved by The Food and Drug Administration (FDA). They include ziprasidone, quetiapine, olanzapine, asenapine, lurasidone, aripiprazole, risperidone, iloperidone, clozapine, cariprazine, paliperidone, and brexpiprazole [35]. Great efforts have been made to reach out to the drug of choice among antipsychotic drugs that can manage delusional disorders. A previous study showed that FGAs, particularly pimozide, were associated with a considerable treatment response compared with other antipsychotic medications [36]. In contrast, another more recent systematic review concluded that the overall favourable response among treated patients was 33.6%, with a statistically significant superiority of FGAs compared to SGAs. Additionally, they showed no advantage of pimozide in managing delusional disorder compared to other antipsychotics [37]. Most published studies estimate the response to treatment via collecting medical records rather than using rating scales, which have high accuracy results in evaluating this response [38]. In 2020, a systematic review of studies that utilized clinical-rated scales was conducted to evaluate the accurate response and efficacy of antipsychotics in managing patients with delusions. They reported that FGAs were associated with a significantly better treatment response than SGAs. Although pimozide was found to be superior to other antipsychotics, $P \leq 0.03$ in most delusional disorder subtypes, it showed comparable results when compared with other FGAs. However, this study was limited by the high degree of heterogeneity and insufficient safety profile data of the investigated drugs [39]. A previous national cohort analyzed 9076 patients with the delusional disorder who received various pharmacotherapies to prevent work disability and reduce the incidence of hospitalization due to psychosis. They reported that most antipsychotics were effective in managing delusions. However, clozapine and long-acting injectables should be given greater consideration since they were associated with the lowest risk of hospitalization because of psychosis and work disability [39]. Adherence to drugs has an impact on the overall treatment response. Cognitive behavior therapy (CBT) has been found to be beneficial in both schizophrenia and delusions. Treatment with CBT results in a statistically significant decrease in the degree of delusional belief, the degree of affective symptoms of delusion, and the frequency of behaviors driven by the delusions [15]. Freeman et al. conducted a randomized controlled trial to evaluate the role of psychotherapy in the form of CBT to relieve the level of worry in patients with persecutory delusions and improve the delusions themselves.

LIMITATIONS

There is a lack of randomized clinical trials and high-quality evidence research that assesses both pharmacotherapy and psychotherapy in the management of delusions. The other main limitation of our study is that it is a narrative review, including mainly observational studies. The included research results are presented in written paragraphs without any pooled analysis using the data from the summarized studies. Real objectivity and pooled analysis are therefore precluded. A narrative review serves as a comprehensive source of the latest published evidence. This may be useful to understand a body of evidence fully. As it does not thoroughly consider the alternative hypothesis, it does not guarantee that the prevailing ideas are true.

CONCLUSIONS

Schizophrenia spectrum disorders can be presented as an isolated disorder or as a sign of psychological diseases such as schizophrenia and bipolar disorders. Delusions have negative impacts on the patient's life and can significantly cause work disability and social isolation. Delusions have no specific or proven etiology. However, there are many theories which may explain its occurrence. The treatment of delusions usually requires combined pharmacotherapy and psychotherapy. CBT and antipsychotics, either FGAS or SGAS, have a significant beneficial role in improving delusions. Further high-quality evidence randomized trials are required to properly estimate the efficacy of the available therapies and determine the first-choice therapy in patients with different categories of Schizophrenia spectrum disorders.

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CONFLICT OF INTEREST
The Authors declare no conflict of interest

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RECEIVED: 22.02.2024
ACCEPTED: 04.11.2024