



## Nursing Interventions for Managing Rare Neurological Disorders: A Comprehensive Review of Psychosis

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2. Ksa, Ministry Of Health, Prince Mohammed Bin Nasser Hospital
3. Ksa, Ministry Of Health, Dharma Health Center
4. Ksa, Ministry Of Health, Medical Complex At The Public Services Center In Alshemaisy Makkah
5. Ksa, Ministry Of Health, Medical Complex At Public Services Centre In Al Shemaisy Makkah
6. Ksa, Ministry Of Health, Medical Complex At The Public Services Center In Alshemaisy Makkah
7. Ksa, Ministry Of Health, Durma General Hospital
8. Ksa, Ministry Of Health, Medical Coplex At The Public Service Center In Alshemaisy Makkah
9. Ksa, Ministry Of Health, Makkah Health Cluster
10. Ksa, Ministry Of Health, Medical Complex At Public Services Centre In Al Shemaisy Makkah
11. Ksa, Ministry Of Health, Medical Complex At The Public Services Center In Alshemaisy Makkah
12. Ksa, Ministry Of Health, Mental Heath Complex
13. Ksa, Ministry Of Health, Erada Complex For Mental Health
14. Ksa, Ministry Of Health, East Riyadh Dental Clinics Center
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### Abstract:

**Background:** Psychosis is a condition characterized by a detachment from reality, manifesting through symptoms such as delusions, hallucinations, and disorganized thoughts. It is a common feature in various neurological, psychiatric, and medical conditions, including schizophrenia and neurodegenerative disorders. Psychosis significantly impacts patients and their families, requiring effective intervention from healthcare professionals.

**Aim:** The aim of this review is to evaluate nursing interventions for managing psychosis in patients with rare neurological disorders, exploring both pharmacological and non-pharmacological approaches, and assessing their effectiveness in improving patient outcomes.

**Methods:** This comprehensive review analyzed existing literature on psychosis management in neurological disorders, focusing on nursing interventions. The review incorporated studies from diverse healthcare settings and assessed interventions related to medication management, family involvement, cognitive behavioral therapy (CBT), and environmental modifications for patients with psychotic symptoms.

**Results:** The review highlights the crucial role of nurses in monitoring vital signs, administering prescribed antipsychotic medications, and ensuring patient safety through a calm, non-stimulating environment. It also underscores the importance of family education and involvement in treatment plans. Antipsychotic medications, particularly second-generation antipsychotics, are effective in addressing positive symptoms,

while cognitive behavioral therapy has shown promise in managing psychotic symptoms alongside medication.

**Conclusion:** Nursing interventions for psychosis management are essential for ensuring patient safety, emotional support, and medication adherence. Early intervention, combined with a multi-disciplinary approach including medication, therapy, and family involvement, significantly improves patient outcomes. The prognosis for patients with psychosis can be favorable when treated promptly and comprehensively, with promising results from newer pharmacological treatments and long-acting injectable antipsychotics.

**Key Words:** Psychosis, nursing interventions, neurological disorders, antipsychotic medications, cognitive behavioral therapy, family support, schizophrenia, patient safety.

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### **Introduction:**

Psychosis refers to a constellation of psychological manifestations that lead to a detachment from reality. Current perspectives suggest that although approximately 1.5% to 3.5% of individuals meet the diagnostic criteria for a psychotic disorder, a considerably larger and fluctuating proportion will experience at least one psychotic symptom during their lifetime [1]. Psychosis is a prevalent characteristic across numerous psychiatric, neuropsychiatric [2][3][4], neurological, neurodevelopmental, and medical conditions. It is a defining feature of schizophrenia spectrum and other psychotic disorders, frequently co-occurring with mood and substance use disorders [5], as well as posing significant challenges in various neurological and medical conditions. Psychosis can lead to considerable distress for both patients and their families, making it a primary focus of treatment for healthcare professionals. The incidence of a first-episode psychosis is approximately 50 per 100,000 individuals, whereas the incidence of schizophrenia stands at approximately 15 per 100,000 individuals [6]. The typical onset for males occurs during the teenage years to mid-20s, while for females, it tends to occur from the teenage years into the late 20s. An earlier onset is associated with poorer prognosis, although early intervention is linked to improved outcomes. Psychosis is exceedingly rare in children.

### **Causes:**

Psychosis may arise from a primary psychiatric disorder, substance use, or other neurological or medical conditions. Structural brain abnormalities have been linked to first-episode psychotic disorders, particularly reductions in prefrontal, superior, and medial temporal grey matter [7]. Primary psychotic disorders are often considered neurodevelopmental anomalies, believed to originate during fetal development, although the manifestation of psychotic symptoms and the full development of the disorder are frequently influenced by epigenetic or environmental factors, such as substance abuse, stress, immigration, infection, postpartum changes, or other medical conditions. Genetic risk factors have substantial evidence supporting their role in the pathogenesis of psychotic disorders [8].

### **Risk Factors:**

The incidence of a first-episode psychosis is around 50 per 100,000 people, and the incidence of schizophrenia is approximately 15 per 100,000 people [6]. The peak age of onset for males typically occurs in the late teens to mid-20s, while for females, it is generally between the teens and late-20s. An earlier onset is associated with worse outcomes, though early intervention is positively correlated with improved prognoses. Psychosis is rare in children.

### **Assessment:**

The Diagnostic and Statistical Manual, Fifth Edition (DSM-V), the primary authority on psychiatric diagnoses, does not provide a strict definition of "psychosis." Instead, it allows for psychotic disorders, whether primary or medically induced, to be characterized by abnormalities in one of the following five domains, which will be explored in detail below. These five categories serve as a useful framework when

the term "psychosis" is encountered in medical practice: Delusions, Hallucinations, Disorganized thought, Disorganized behavior, and Negative symptoms.

Delusions are persistent, false beliefs that the individual cannot recognize as such, even when confronted with evidence disproving them. Several types of delusions exist. Persecutory delusions, the most common, involve the belief that one is being targeted or harassed by others. Referential delusions entail the belief that external events, such as objects or conversations, are specifically directed at the individual. Grandiose delusions are characterized by an inflated sense of self-importance, with the person holding exaggerated, unrealistic views of their abilities or status. Erotomanic delusions involve the belief that others are in love with the person. Nihilistic delusions involve a belief that catastrophic events are imminent. Somatic delusions are false beliefs concerning one's body or bodily functions. Delusions can be further categorized into bizarre and non-bizarre. Bizarre delusions are implausible and defy the laws of physics, such as "Flying mutant alien chimpanzees have harvested my kidneys to feed my goldfish." Non-bizarre delusions, while highly improbable, are conceivable, such as "The CIA is watching me 24 hours a day via satellite surveillance." Non-bizarre delusions characterize delusional disorder.

Hallucinations refer to perceptions occurring without external stimuli sufficient to provoke such experiences. By definition, hallucinations are involuntary and not under the individual's control. These can manifest in any sensory modality—visual, auditory, olfactory, gustatory, proprioceptive, or tactile—though auditory hallucinations are most prevalent in schizophrenia spectrum disorders. Individuals with auditory hallucinations often perceive voices originating from "outside" their head. Visual and tactile hallucinations are commonly seen in severe alcohol withdrawal, and visual hallucinations are a characteristic feature of Lewy body dementia. Disorganized thought is typically evident in the patient's speech and communication patterns. During a mental status examination, a person without a psychotic disorder is expected to exhibit a "logical" and "goal-directed" thought process. In contrast, psychosis may be characterized by loosened associations or disjointed thought sequences. Circumstantial thinking, also known as "non-linear thought," involves excessive and unnecessary detail when attempting to answer a question. Tangential thinking refers to a continual shift away from the original topic, with no return to the initial point. Word salad is a disorganized and incomprehensible jumble of words, while neologisms are the creation of new, nonsensical words or phrases. Perseveration involves the repetition of words or statements.

Disorganized behavior encompasses a wide range of dysfunctional goal-directed activities, often resulting in a decline in daily functioning. In individuals with psychosis, there may be unpredictable or inappropriate emotional responses that do not align with the current situation, which may manifest as a lack of inhibition or impulse control. Some patients may engage in nonsensical actions that are socially inappropriate. Catatonic behavior is marked by a significant reduction in reactivity to the external environment, which can manifest as psychomotor retardation, immobility, or rigidity, along with an absence of verbal responses, or, alternatively, as aimless and excessive motor activity. Negative symptoms refer to a decrease or loss in normal functioning, which can often be misinterpreted as symptoms of depressive disorders. The prodromal phase of schizophrenia frequently presents with negative symptoms. These include a lack of emotional expression or blunted affect, often described as a "flat affect." Affected individuals may exhibit simplistic or monotonic speech patterns, and may experience alogia, or poverty of speech. Psychomotor retardation, along with a reduced energy, interest, concentration, and a loss of pleasure in previously enjoyable activities (anhedonia), may also be present.

### **Evaluation:**

As with any medical or psychiatric condition, a thorough interview is essential for informing the treatment plan. The initial step involves obtaining a detailed history, which should include but is not limited to the timeline and severity of symptoms, any prior psychiatric conditions, hospitalizations, medical history, medications (both psychiatric and non-psychiatric), substance use, social history, experiences of trauma (emotional, physical, sexual), suicidal ideation or past attempts, and any auditory or visual hallucinations. It is important to recognize that psychiatric patients may struggle to provide a concise history due to the nature of their condition. Equally important to the history is the mental status examination (MSE), a critical

component of the psychiatric evaluation. The clinician must observe the patient's appearance, behavior, speech, mood, affect, thought process, and content. In addition to a urinary toxicology screen, a comprehensive medical workup can help exclude non-psychiatric causes of psychosis. Some of the tests that may be conducted, if clinically warranted, include:

- Complete blood count and metabolic panel
- Urinalysis and urine cultures
- Thyroid-stimulating hormone (TSH), T3, T4
- Liver function tests
- Vitamin B12
- HIV testing
- CT and MRI scans
- Electroencephalogram (EEG)
- Lumbar puncture
- Rheumatologic or immunologic evaluations

It is essential to note that certain substances associated with psychotic episodes, such as bath salts, synthetic cannabis strains, and psychedelics, may not be detected on standard drug screening panels. Only after ruling out substance use, medication-induced conditions, or other medical causes can clinicians consider the possibility of a primary psychotic disorder [9].

#### **Medical Management:**

The approach to managing a patient with psychosis is heavily contingent upon the underlying cause of the psychotic episode. Regardless of whether the patient is receiving inpatient or outpatient care, it is essential for a psychiatrist to evaluate anyone presenting with psychosis. Antipsychotic medications are considered the primary therapeutic intervention for psychotic disorders, with the selection, dosage, and method of administration being determined by the specifics of the case. In particular, antipsychotic medications are typically utilized for the management of schizophrenia spectrum disorders. Initial dosages should be conservative, gradually increasing based on the patient's response. A long-standing debate persists regarding the comparative efficacy of second-generation versus first-generation antipsychotics [10][11][12]. These medications have also proven to be effective in treating the psychotic manifestations of drug-induced psychosis, mania, delirium [13], as well as the psychotic features of depression and neurodegenerative disorders such as dementia. However, it is crucial to address the underlying causes of psychosis beyond simply managing the acute episode. Antipsychotic medications are particularly effective for the positive symptoms of psychosis, including hallucinations, delusions, disorganized thoughts, and behaviors, but are less beneficial for negative symptoms [14]. Despite their efficacy, antipsychotics are associated with significant adverse effects, including extrapyramidal symptoms and potentially life-threatening QT prolongation. Notably, clozapine and olanzapine have demonstrated the ability to reduce suicide risk among patients with psychotic disorders [15]. In the context of catatonia, benzodiazepines have been shown to be a viable treatment option, offering relief from the associated symptoms of psychosis.

Alongside pharmacological interventions, family members and caregivers play a vital role in the patient's management. They contribute by creating a supportive and therapeutic environment, offering empathy, and interacting with the patient in a calm and composed manner [16]. For acutely agitated or potentially violent patients who pose a risk to themselves or others, immediate hospitalization is warranted. These patients should be closely monitored by healthcare professionals. In such cases, the combination of injectable antipsychotics and benzodiazepines is the most effective treatment [17]. It is critical to avoid physical restraints, as their use has been associated with increased mortality. Cognitive

behavioral therapy (CBT) also holds significant promise in the treatment of psychotic symptoms, supplementing medication management and providing patients with strategies for managing their condition [18]. Finally, early intervention is crucial for patients who develop schizophrenia-spectrum disorders following an acute psychotic episode. Delays in treatment are linked to poorer long-term outcomes, emphasizing the importance of timely psychiatric intervention [19].

### **Nursing Management:**

Nursing management of patients with psychosis involves continuous and comprehensive assessment to ensure both the safety and well-being of the patient. Essential tasks include monitoring vital signs and neurovital indicators, evaluating the patient's thought processes, and administering antipsychotic medications as prescribed. The patient should be placed in a calm, isolated room to minimize external stimuli. Communication with the patient should be clear, slow, and calm, while interactions should remain gentle and comforting. It is important to ensure the patient's safety, continually monitor their status, and provide emotional support. Nurses must also educate the patient's family about the nature of the illness, emphasizing the importance of understanding the patient's needs and how best to interact with them. Regular checks are necessary to ensure the patient does not engage in violent behavior or harbor suicidal thoughts. Maintaining a supportive, non-confrontational environment is crucial for promoting the patient's recovery and stability.

### **Outcome Identification:**

Historically, the prognosis for schizophrenia was perceived as consistently poor; however, recent studies have revealed potential for favorable outcomes. The availability of newer pharmacological treatments, coupled with the introduction of long-acting injectable antipsychotics, provides patients with diverse therapeutic options that also address issues of medication adherence. As previously emphasized, early intervention combined with intensive treatment is paramount for long-term outcomes. The prognosis for a single psychotic episode linked to a medical or neurological condition remains largely inconclusive, and outcomes are dependent on the underlying condition. In such cases, the most effective approach is to treat both the acute episode and the primary illness concurrently.

### **Monitoring:**

Differentiating between psychoses associated with primary psychotic disorders and those linked to medical or neurological conditions requires a careful evaluation of several factors. Age of onset is a critical determinant, as primary psychotic disorders typically manifest in late adolescence or early adulthood, with men often presenting earlier than women. In contrast, psychosis related to medical or neurological conditions is more common in individuals over 40 years of age, with the risk increasing with age, particularly within hospital settings. The pattern of onset is another important consideration: primary psychotic disorders often present subtly, sometimes with a prodromal phase that may initially resemble other psychiatric disorders, such as depression. Conversely, psychosis associated with medical or neurological conditions tends to emerge acutely. Genetic factors also play a significant role, with a strong familial correlation for primary psychotic disorders, whereas psychosis due to medical or neurological conditions exhibits less of a genetic link. In terms of presentation, primary psychotic disorders are frequently triggered by major life stressors, such as relocation or relationship changes, while psychosis related to medical or neurological conditions usually occurs in healthcare environments. Additionally, auditory hallucinations are more commonly associated with primary psychotic disorders, while other types of hallucinations—such as visual, tactile, or olfactory—are more frequently observed in medical or neurological psychosis.

### **Coordination of Care:**

Psychosis is a prevalent yet profoundly distressing symptom that healthcare providers will likely encounter during their careers. As discussed, psychosis can arise from a range of underlying causes, including primary psychiatric disorders, substance-induced conditions, and neurological or medical etiologies. A thorough medical assessment, accompanied by a psychiatric evaluation, is essential for

appropriate diagnosis and management. Although the initial symptoms of a psychotic episode can often be treated, many patients, particularly those with primary psychotic disorders, require long-term care. Standard treatments may not address the complex psychosocial stressors that these patients often face, contributing to high rates of treatment discontinuation. Emerging research is exploring ways healthcare teams can improve patient outcomes through greater community involvement. Certain patient subgroups, such as individuals experiencing first-episode psychosis, homeless populations, and those with co-occurring substance use disorders, present particular challenges in engagement. Poor treatment adherence is closely linked to adverse clinical outcomes, including relapse and re-hospitalization. Recently, the concept of “interpersonal care” has gained prominence in mental health treatment, emphasizing the need to consider patients’ holistic needs—such as their personal, cultural, and spiritual values—rather than focusing solely on symptom management. This approach, often referred to as “treating the whole patient,” is particularly relevant for individuals with mental illness. Below, three innovative, recovery-oriented strategies for patient engagement are discussed.

### **Implementing Technology:**

Technology plays a crucial role in facilitating communication among individuals, particularly for those who may feel isolated due to mental illness. It can provide a valuable platform for patients to connect with others who share similar experiences, reducing the stigma often associated with seeking help in person. For some individuals, geographic limitations or financial constraints may hinder access to traditional healthcare services, making technology-based communication more accessible. Additionally, online support groups or forums can offer patients a continuous, supportive environment and foster a sense of belonging. This approach is especially beneficial for younger adults, who may be more receptive to seeking assistance through social media. By offering remote access to healthcare professionals, technology can help reduce unnecessary hospital admissions.

### **Peer Support:**

Some patients, particularly those who struggle with treatment adherence, may be wary of authority figures or feel stigmatized in conventional healthcare settings. Peer support networks have emerged as an effective way to engage patients, providing them with a relatable social network and a sense of empowerment. Research indicates that peer support enhances self-determination and self-awareness, leading to improved treatment engagement. Notably, patients who received peer support in the early stages of treatment were more likely to remain engaged and motivated six months later. Peer support has also been shown to significantly reduce internal and external stigma, particularly among military veterans, for whom peer support is crucial.

### **Cultural Formulation:**

Individuals from ethnic minority groups are often less likely to seek mental health treatment compared to non-Hispanic white populations. Cultural factors profoundly influence how mental illness is perceived and can impact a patient's willingness to pursue treatment. Therefore, providing culturally sensitive care is vital. The Cultural Formulation Interview (CFI), a 16-item questionnaire introduced in the DSM-V, helps clinicians understand not only cultural and social structures but also the individual circumstances and goals of the patient. This tool fosters improved cross-cultural communication and allows healthcare providers to better meet the unique needs of their patients.

### **Interprofessional Collaboration in Psychosis Management:**

The evaluation and treatment of psychosis necessitate a collaborative approach involving an interdisciplinary team. While initial assessments may be conducted by clinicians, including medical doctors, nurse practitioners, and physician assistants, specialists such as psychiatrists and mental health professionals will likely need to be involved in the management. Communication among the entire healthcare team, including the patient's family, is essential for coordinated care. Given the complex side effects and drug-drug interactions associated with many antipsychotic medications, pharmacists play a critical role in advising on the most appropriate medication regimen and should be closely involved in the

treatment process. Nurses, often the primary point of contact for patients, play a key role in monitoring medication adherence and therapeutic progress, providing daily care, and reporting concerns to the interdisciplinary team. Effective communication and collaboration among all team members are crucial for achieving optimal patient outcomes in the management of psychosis.

### **Risk Management:**

Psychotic episodes, irrespective of their cause, pose significant risks to both the patient and others, necessitating hospitalization in a safe, therapeutic environment. Involuntary admission criteria vary depending on jurisdiction. Paranoia, fear, and other psychotic symptoms may hinder a patient's ability to seek necessary care, complicating both medication adherence and treatment compliance. Antipsychotic medications, while effective, can cause significant side effects, including extrapyramidal symptoms (EPS), metabolic syndrome, cardiac abnormalities, anticholinergic effects, sexual dysfunction, and tardive dyskinesia. Furthermore, psychotic disorders can severely impair daily functioning and increase the risk of suicide, with individuals with schizophrenia exhibiting a suicide rate of approximately 5% [21-22].

### **Conclusion:**

Psychosis, a mental health condition marked by a detachment from reality, can result from various underlying causes, including neurological disorders. It presents significant challenges for both patients and healthcare providers, necessitating comprehensive management strategies. The role of nurses in managing psychosis is critical as they are at the forefront of patient care, providing continuous assessment, medication administration, and emotional support. Nursing interventions for managing psychosis involve several key components, including careful monitoring of vital signs and mental status, administration of antipsychotic medications, and creating a safe, non-stimulating environment. Nurses must approach patients with a calm, clear, and empathetic communication style to facilitate trust and minimize agitation. Educating patients' families is also an essential aspect of nursing care, ensuring they understand the nature of the illness and how to interact with the patient effectively. By promoting family involvement, nurses help create a supportive environment that contributes to the patient's recovery. The review emphasizes that antipsychotic medications are the cornerstone of psychosis treatment, particularly in managing the positive symptoms such as hallucinations and delusions. Second-generation antipsychotics, in particular, offer effective symptom management with fewer side effects compared to first-generation antipsychotics. However, addressing the negative symptoms of psychosis remains challenging, and additional interventions like cognitive behavioral therapy (CBT) have shown promise in supplementing medication. CBT helps patients cope with their symptoms by providing them with strategies to manage stress and anxiety, improving their overall quality of life. Early intervention is a key factor in achieving better long-term outcomes. When psychosis is identified and treated promptly, the prognosis can be significantly improved. Newer pharmacological treatments, including long-acting injectable antipsychotics, have revolutionized treatment by improving medication adherence and reducing the risk of relapse. Ultimately, a holistic and multi-disciplinary approach, involving both pharmacological and psychological support, is essential for managing psychosis in patients with neurological disorders, ensuring their safety and enhancing their recovery.

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## الملخص:

الخلفية: يُعتبر الذهان حالة تتميز بالانفصال عن الواقع، ويظهر من خلال أعراض مثل الأوهام، الهلوس، والأفكار غير المنظمة. وهو سمة شائعة في العديد من الحالات العصبية والنفسية والطبية، بما في ذلك الفصام واضطرابات التنكس العصبي. يؤثر الذهان بشكل كبير على المرضى وعائلاتهم، مما يتطلب تدخلاً فعالاً من مقدمي الرعاية الصحية.

الهدف: تهدف هذه المراجعة إلى تقييم التدخلات التمريضية لإدارة الذهان لدى المرضى الذين يعانون من اضطرابات عصبية نادرة، من خلال استكشاف الأساليب الدوائية وغير الدوائية، وتقييم فعاليتها في تحسين نتائج المرضى.

الطرق: قامت هذه المراجعة الشاملة بتحليل الأدبيات الحالية حول إدارة الذهان في الاضطرابات العصبية، مع التركيز على التدخلات التمريضية. شملت المراجعة دراسات من بيئات رعاية صحية متنوعة وقيمت التدخلات المتعلقة بإدارة الأدوية، ومشاركة الأسرة، والعلاج السلوكي المعرفي (CBT)، وتعديلات البيئة للمرضى الذين يعانون من أعراض ذهانية.

النتائج: تبرز المراجعة الدور الحيوي للممرضين في مراقبة العلامات الحيوية، وتناول الأدوية المضادة للذهان المقررة، وضمان سلامة المريض من خلال بيئة هادئة وغير مثيرة. كما تؤكد على أهمية تعليم الأسرة ومشاركتها في خطط العلاج. تعد الأدوية المضادة للذهان، لا سيما الأدوية من الجيل الثاني، فعالة في معالجة الأعراض الإيجابية، بينما أظهر العلاج السلوكي المعرفي نتائج واعدة في إدارة الأعراض الذهانية جنباً إلى جنب مع الأدوية .

الخلاصة: تعتبر التدخلات التمريضية لإدارة الذهان أمراً أساسياً لضمان سلامة المريض، ودعمه العاطفي، والامتثال للأدوية. إن التدخل المبكر، جنباً إلى جنب مع النهج متعدد التخصصات الذي يشمل الأدوية، والعلاج، ومشاركة الأسرة، يُحسن بشكل كبير نتائج المرضى. يمكن أن يكون التشخيص للمرضى الذين يعانون من الذهان إيجابياً عند معالجهم بشكل سريع وشامل، مع نتائج واعدة من العلاجات الدوائية الحديثة والأدوية المضادة للذهان طويلة المفعول.

الكلمات الرئيسية: الذهان، التدخلات التمريضية، الاضطرابات العصبية، الأدوية المضادة للذهان، العلاج السلوكي المعرفي، دعم الأسرة، الفصام، سلامة المريض.