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Basic considerations for understanding, diagnosing and treating symptoms of primary non-dementia psychosis in older adults

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Introduction

When compared with dementia related psychosis, there is less practical guidance in the literature for Advanced Practice Registered Nurses (APRNs) managing primary non-dementia psychosis in older adults. This primer uses a holistic approach with a case study that illustrates the evaluation and management of primary non-dementia psychosis in older adults.

Psychosis (Box 1) is a loss of contact with reality.[1] Psychosis has an estimated 23% lifetime risk[2] and is found in mental health conditions such as delirium, depression, dementia, schizophrenia, bipolar disorder, and substance use disorders.[3] Yet, the prevalence of psychiatric disorders decreases as age increases.[4] Longer lifespans lead to greater numbers of older adults with serious mental illness, cognitive impairment and substance use disorder,[5] all of which may cause psychosis. The American Psychiatric Association[1] and the National Institutes of Health/National Institute of Mental Health[6] describe a psychotic episode as an individual who is experiencing symptoms of delusions (fixed false beliefs) and hallucinations (perceptions occurring in the absence of corresponding external or somatic stimuli) that interfere with the ability to perform activities of daily living.

Psychosis is categorized (Table 1) as either primary or secondary.[2] Primary psychosis is a diagnosis of exclusion; while the diagnosis of secondary psychosis relies on a sound history and physical examination that is often obtained in difficult and challenging circumstances.[2,7,8]

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Box 1
Terminology and definitions.[1,3,6]

Terminology	Definitions
Psychosis *(symptom)*	Temporary; if not treated early, psychosis may develop into more intense experiences including hallucinations, delusions
Psychosis *(sign)*	Indication of a mental health condition such as schizophrenia or bipolar disorder
Psychotic symptoms	Features including hallucinations, delusions
Psychotic episode	When someone who is ill experiences psychosis or a loss of contact with reality

Guiding principles

It is imperative that all APRNs are prepared[5] with a holistic approach on the broad spectrum of primary non-dementia psychoses. Guiding principles include: cultural considerations, social determinants of health, and nonpharmacological interventions.

Cultural considerations in the management of primary non-dementia psychosis

The older adult population continues to grow in cultural diversity.[5] The *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5)[1] includes an *Outline for Cultural Formulation* that guides APRNs on best practices to identify culturally relevant information. The five sections of the outline are: 1) cultural identity of the individual; 2) cultural concepts of distress; 3) stressors and supports; 4) cultural aspects of the clinician-patient relationship; and, 5) the overall cultural formulation. The *Cultural Formulation Interview*, located in the DSM-5 appendix, provides an excellent guide for APRNs to formulate a culturally appropriate plan of care.

Mental health disparities and social determinants

The Institute of Medicine (IOM) defines disparities as "racial or ethnic differences in the quality of health care that are not due to access-related factors or clinical needs, preferences or appropriateness of interventions."[9] Mental health disparities exist for all populations, but are more stigmatizing for ethnic/minority populations who may be undermedicated or may not receive the most current psychotropic medications that are better tolerated and more effective.[9] Social determinants of health such as transportation or poverty influence health outcomes, including how people live and age.[10] Compared with other populations, rural older adults may not receive optimal treatment and experience greater and more severe mental disabilities.[9] Additionally, the shortage of healthcare providers with expertise in geriatric mental health across disciplines contributes to poorer outcomes.[5]

Nonpharmacological approach

As with any diagnosis, establishing a therapeutic relationship built on trust and mutual respect is paramount. This is the first step in formulating a mutually agreeable, person-centered plan of care. Nonpharmacological interventions must align with individual's values, goals, cultural identity, religious/spiritual wishes, and the older adult's diagnosis.

Case study

Meet Ms. P, a 72-year-old Asian female who speaks English. She presents with increasing non-persecutory, auditory hallucinations and new-onset nightmares over the past two weeks. She is new to your integrated outpatient clinic led by APRNs: 2 family, 2 adult-gerontological primary care, a psychiatric mental health nurse practitioner and clinical nurse specialist. Ms. P has a history of multiple chronic illnesses and schizophrenia diagnosed at age 23 (Table 2). She has been on the same medications for the past six months except for metoclopramide, prescribed 3 months ago for nausea and vomiting when she was in the emergency department. Over the past two weeks, she is experiences anxiety about vivid nightmares that awaken her about 3 am. She is afraid to go back to sleep due to these recurring nightmares. Because Ms. P's chief complaint is increasing auditory hallucinations and nightmares, she sees the psychiatric mental health APRN first.

Ms. P is brought to the clinic by her nephew because she does not drive. The psychiatric mental health APRN focuses on making Ms. P feel comfortable during the interview. Ms. P states she is most interested in addressing both the nightmares and the auditory hallucinations. Ms. P self-reports the persecutory and partition delusions[11] (believing that radiation is leaking through the light fixtures) that have typically been associated with her schizophrenia are not as bothersome as in the past. The APRN reviews Ms. Ps diagnoses, medications, and specific

Table 1
Summary: primary and secondary psychosis.

Diagnosis	Primary secondary psychosis	DSM 5 criteria[1]	Features of psychosis	Possible related cause of escalation of symptoms[2]	Medication side effects
Schizophrenia delusional disorder	Primary[2] non-dementia psychosis	Delusions, hallucinations, disorganized thinking, grossly disorganized or abnormal motor behavior and negative symptoms	Late onset: After 40–45 years old[2,8] persecutory and partition delusions[11]	Traumatic event	Antipsychotic medications: Metabolic (diabetes mellitus) Cardiovascular
Delirium	Secondary[2] non-dementia psychosis	Disturbance of attention Sudden onset Disturbance in cognition Disturbance in attention and cognition not better explained by another condition Evidence from H/P of a direct physiological consequences of a medical condition, substance intoxication or withdrawal	Hallucinations and delusions depending upon the subtype of delirium including hypoactive & hyperactive[2] Hallucinations 40–70%[2] Delusions 25–79%[2]	Medication Toxicity Pneumonia Substance Use Disorder HIV/AIDS Tumors Sleep Disorders Tumors	Common causes of psychosis[2] Antiparkinsons medications Anticholinergics Digoxin Corticosteroids Alcohol Cannibas Sedative hypnotics Withdrawal from alcohol, sedative hypnotics or anxiolytics
Major neurocognitive disorder	Secondary[2] dementia psychosis	Major Neurocognitive Disorder-deficits in at least one of the following: Complex attention Executive function Learning and memory Language Perceptual motor Social cognition	Hallucinations and delusions[21] May be specific to the type of major neurocognitive disorder	Disease progression Environmental changes Sensory deficits	Common causes of psychosis[2] Antiparkinsons medications Anticholinergics Digoxin

Table 2
Ms. P's chart data.

Vital signs & weight	Laboratory results
• Temperature: 97.8 F • Heart rate: 72 bpm regular rate & rhythm • Respirations: 14/minute eupneic • Pulse oximetry: 98% • Blood pressure: 118/62 mm/Hg • Weight: 225 pounds	• Hemoglobin A1C 5.9% • Potassium 4.0 mEq/L • Sodium 140 mEq/L • Creatinine 1.1 mg/dL • BUN 10 mmol/L • WBC 4.9 10^3uL • Hemoglobin 14 g/dL • Hematocrit 32% • Platelet 295 10^3 /uL • ALT 9 IU/L • AST 12 IU/L
Medications	**Co-morbidities**
• Metformin 1000 mg p.o.BID • Glyburide 5 mg p.o. QD • Lisinopril 10 mg p.o. QD • Atorvastatin 40 mg p.o. at bedtime • Levothyroxine 50 mcg p.o. QD • Olanzapine 10 mg p.o. QD • Metoclopramide 5 mg p.o TID	• T2DM • HTN • Osteoarthritis • Hypothyroidism • Gastroparesis • Hyperlipidemia • Obesity • Schizophrenia

symptoms of psychosis followed by a mental status exam. The APRN acknowledges Ms. P's presentation of psychosis and develops the differential diagnoses for both the auditory hallucinations and the new onset nightmares (Table 3). Collaboration with the adult-gerontology APRN for follow up on her diabetes and gastroparesis management, prior to adjusting antipsychotic medications, is conducted.

Role of the primary care provider

The majority of older adults seek mental health care from primary care providers.[5,12,13] However, few health care professionals (including APRNs) receive sufficient geropsychiatric training.[14] New models of primary care, such as the one presented in the case study, with collaborative and integrated-mental health services, represent opportunities for addressing primary non-dementia psychosis in older adults.[12,13] Protocols that utilize clinic specific resources are needed to specifically address psychotic symptoms in older adults, particularly, distinguishing underlying medical causes from primary psychosis and referring to specialized psychiatric mental health services. Well-established protocols promote patient safety for outpatient treatment to avoid acute care hospitalization or hospitalization to a specialized geropsychiatric unit.

Symptoms

Hallucinations and/or delusions[1] often present in combination[7] and are characteristics of primary non-dementia psychosis. Symptoms of psychosis are categorized as positive or negative (Table 4).[15] Persecutory and partition delusions are common in late-life schizophrenia.[11] Persecutory delusions involve conspiracies or believing one will be hurt.[1] In partition delusions, impermeable objects such as walls are believed to be permeable to people or animals.[11] Auditory verbal hallucinations tend to occur in persons with schizophrenia.[15] Compared to younger adults, older adults with schizophrenia report less common and less severe auditory verbal hallucinations.[15] In contrast, dementia-related psychosis typically presents with more paranoid delusions of theft or misidentifying a loved one.[2,16] There are poorer outcomes with combined delusions and hallucinations than with delusions or hallucinations alone[17] (Table 1).

Table 3
Differential diagnoses for Ms. P's auditory hallucinations and new-onset nightmares.

Auditory hallucinations	New-onset nightmares
• Delirium due to medication effect (metoclopramide) • Delirium due to sleep deficit • Delirium rule out other potential causes • Schizophrenia	• Delirium due to medication effect (metoclopramide) • Nocturnal hypoglycemia • Reactivation of a trauma

Table 4
Positive and negative symptoms.[1,22]

Positive symptoms		Negative symptoms	
Hallucinations	Auditory Olfactory Visual Tactile	Alogia	Poverty of speech
Delusions Paranoia	Fixed, false belief	Avolition Anhedonia	Apathy Social withdrawal, inability to feel pleasure

Work-up

In most cases, the symptoms of non-dementia psychosis are an extension of a previous diagnosis that presented in early adulthood. Psychotic symptoms that are not consistent with prior psychotic episodes must be carefully evaluated for secondary causes. When a psychotic episode escalates, the patient is rarely treated for just one condition. Ruling out secondary causes of psychosis such as delirium, dementia or medication toxicity are all factors. Individualizing the assessment of older adults may uncover liver or renal dysfunction as a source of secondary psychosis. Changes in cognition or escalation of hallucinations or delusions could be the result of pain or constipation that are often overlooked. The elements of the history and physical exam listed in Table 5 provide further direction based on the course of the disease.

Non-pharmacological treatment and management

Non-pharmacological interventions (NPIs) are generally the first approach[18] to psychosis. In many cases, a combination of NPIs with pharmacological interventions may be indicated. It is important to identify specific NPIs such as physical activity, sleep hygiene or decreasing environmental stimulation that have been effective in treating the psychosis in the past. The value of knowing the person's story is paramount! Early detection of escalating primary non-dementia psychosis and implementation of NPIs or pharmacological interventions are key. Acute symptoms indicating a risk of harm to self or others require immediate referral and hospitalization.

Pharmacological management of non-dementia psychosis

The focus of pharmacological management is to decrease distress and increase function. For the older adult who has dementia as well as non-dementia psychosis, antipsychotic medications should be used cautiously. Both first and second-generation antipsychotic medications carry a black box warning for increased mortality in older adults with dementia.[19] If antipsychotic medications are used in persons with dementia experiencing non-dementia psychosis, they should be limited to psychotic features that put others or the person with dementia at risk for harm. These medications should only be used following informed consent with the individual and/or responsible party. All older adults, including persons living with long-standing

Table 5
Work up for psychosis.[1–2,23–27]

Chief complaint		
History of present illness:		
Orientation: Fully or partially oriented to person, place, time, time, situation.		
Determine the patient's baseline		
Identify:		
Hallucinations: specific to the older adult (animals, people, voices; what the voices are saying)		
Delusions (paranoid, believing to be the president; believing someone will hurt the patient) from the patient's perspective (paranoia; grandiose)		
Is there a combination of hallucinations and delusions?		
Suicidal ideation	Sleep	
Positive symptoms	Appetite	
Negative symptoms	Concentration	
What is the impact on baseline cognition and function?		
Past medical history		
Past psychiatric history (Baseline psychiatric diagnosis for symptoms of primary non-dementia psychosis?)		
Hospitalizations		
Provider		
Allergies		
Medications		
Family history		
Social history		
Cultural		Education
Spiritual		IADLs/ADLs
Living arrangements		Economic status
Complementary/alternative therapy		SUD, opioids, tobacco, marijuana, cocaine
Review of systems:		
Mental status examination:		
Mini-Cog		
Determine any changes from baseline		
Physical examination		
Clinical presentations that raise suspicion of secondary causes of psychosis require further evaluation		
Diagnostic work-up for delirium/secondary psychosis:		
Complete blood cell count		
Liver, thyroid, renal function tests		
Complete chemistry, vitamin B-12, folate, vitamin D, TSH		
Urinalysis/Urine for culture and sensitivity		
HIV testing, RPR (to determine underlying cause of non-dementia psychosis)		
Urine testing for drugs of abuse (such as alcohol, cocaine, opioids, cannabis)		
Neuroimaging-CT of head (rule out mass, CVA)		

serious mental illness, may benefit from gradual dose reductions of antipsychotic medications to achieve an optimal response to the lowest possible dose.

Returning to the case study

The APRNs collaborated to determine the possible causes of Ms. P's nightmares and auditory hallucinations. The team considered metoclopramide likely, but it most commonly causes visual hallucinations, so other causes needed to be considered. Ms. P scored 5/5 on the Mini Cog and 1/27 on the Patient Questionnaire 9 (PQ9) indicating that further work up for a new diagnosis of dementia or depression was not indicated. A delirium lab work up (Table 5) was completed without signs of infection or identifiable cause for the psychosis. The adult-gerontological primary care APRN also recommended discontinuing the metoclopramide. Regarding the nightmares, the main differential was nocturnal hypoglycemia. Ms. P was willing to set an alarm and check her blood glucose at 3 am.

These interventions were put in place because: 1) Ms. P experienced the new-onset of nightmares with a simultaneous increase in auditory hallucinations; 2) these symptoms were temporally associated with the prescription of metoclopramide; and 3) her auditory hallucinations were nonpersecutory and different from persecutory and the partition delusions she typically experienced due to her schizophrenia. In addition, the team determined that an increase in antipsychotic medications was not indicated.

Because Ms. P was forthcoming about her auditory hallucinations and history of schizophrenia, she allowed the APRNs to ensure the required referrals were made. Unnecessary increases in antipsychotic medications and hospitalization were avoided. She was treated with respect and without judgment by both APRNs. The rapport by the APRNs broke down the barrier of stigma that often prevents older adults from seeking help. Ms. P maintained her insight into her own diagnosis due to a therapeutic relationship with the APRNs and early intervention.

Important follow-up for primary non-dementia psychosis

Finally, because Ms. P expressed limited financial resources in the past, her current economic situation was considered by the APRNs. However, Ms. P denied any difficulty with paying for medications or for living expenses. At a 2-week follow-up appointment with Ms. P, a more in-depth cultural assessment was conducted. At that appointment, Ms. P stated she was feeling much better off the metoclopramide and had not experienced any reoccurring symptoms of gastroparesis. Ms. P also agreed to return every three months to establish a consistent relationship with the primary care and psychiatric mental health APRN provider team.

Gerontological Advanced Practice Nurses Association (GAPNA) proficiencies

There is significant overlap between medical and psychiatric/mental health conditions.[2] The management and identification of primary non-dementia psychosis and referral to psychiatric mental health APRNs is a routine practice in the care of older adults. Older adults require the collaborative expertise and skills from nurses who

are proficient in atypical symptoms and managing complex cases in primary care.[5,20]

The *GAPNA Consensus Statement on Proficiencies for Advanced Practice Registered Nurse Gerontological Specialist* identifies the specialized expertise and proficiency skills required to meet the complex health care needs of older adults, such as those with non-dementia psychosis.[20] There are two proficiencies that are directly germane to care for older adults experiencing psychosis. The APRN Gerontological Specialist: (1) provides comprehensive assessment of the older adult including: function, nutrition, culture, physical, *mental, psychosocial*, and environment (proficiency #11); and (2) provides advanced assessment and management of *chronic serious mental illness*, and *neurodegenerative conditions* associated with aging (proficiency #14).[20]

Conclusion

Older adults experiencing primary non-dementia psychosis often have a challenging and complex presentation. Identification of the cause of psychotic symptoms may be complicated by the presence of comorbid chronic conditions and/or medications, as well as overlapping symptoms of dementia-related psychosis and primary non-dementia psychosis. A proficient APRN approaches symptoms of primary non-dementia psychosis with a detective's eye, looking for the underlying contributing factors and co-existing conditions. APRNs must often balance the risks and benefits of treatment with competing co-morbid conditions as in the case of Ms. P. Stopping her metoclopramide could have exacerbated her gastroparesis. The APRNs individualized Ms. P's comprehensive treatment plan based on their expert knowledge of current evidence on best practices for quality care of the older adult with primary non-dementia psychosis.

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