1 Special Considerations for the Neuropsychological Interview with Older Adults

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The neuropsychological interview presents a unique opportunity to gather essential data that can be used to guide the testing process and assist in formulating a differential diagnosis. A comprehensive interview not only provides important background information that cannot be obtained from psychometric testing, but it also offers an opportunity for the examiner to gather critical behavioral observations that are often witnessed only in a less-structured setting. Although interviews vary in their focus and depth, they provide a framework from which examiners can assess demographic and referral information, data pertaining to presenting complaints and symptom progression, information regarding activities of daily living, pertinent environmental risk factors, and relevant background information regarding past medical, developmental, educational, and psychosocial history. The interview also offers the opportunity to assess the caregiver's perspective of the patient's cognitive status, additional stressors, and available resources that can be used to guide the treatment recommendations. Thus, gathering information from a collateral source should be a key component of the clinical interview when possible.

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Demographic and Referral Information

The first questions posed by the examiner will set the tone for the rest of the interview. Asking a patient to provide demographic information can be a good way to begin establishing rapport. In addition to essential information such as one's name, date of birth, handedness, gender, educational level, and living arrangement, patients should also explain in their own words, whenever possible, who referred them for testing and the reason for the referral. This is really the first opportunity that the examiner will have to assess the level of insight and ability to formulate one's thoughts. Other important questions that should be addressed before testing begins are medication regimen; their primary language and, when applicable, secondary language; and whether the patient requires glasses, hearing assistive devices, and/or ambulatory assistance.

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Physical, Cognitive, and Emotional Complaints

One goal of the interview is to document the specifics of the complaints and the time course of symptoms. There are several different approaches used to evaluate current physical, cognitive, and emotional complaints. These include (1) having the patient or caregiver fill out a structured questionnaire, (2) asking the patient to elaborate on each of his or her concerns as the examiner records the complaints verbatim, or (3) starting the interview using a structured format where the examiner systematically reviews a predetermined list of possible symptoms. The best approach usually involves a combination of these interviewing techniques such as having patients verbally describe their chief concerns and then following up with a more structured series of questions or having the examiner administer a formal questionnaire before testing begins and then reviewing each item with the patient and caregiver during the interview.

Physical Symptoms

The most common noncognitive neurologic complaints reported by older adults are headache, dizziness, numbness/tingling, visual changes, and problems with balance. Generally speaking, physical complaints can be grouped into motor, sensory, and somatic functions. Important areas to address with regard to motor changes include weakness, gait and balance difficulties (such as shuffling and smaller steps), motor slowing, presence of tremor, stiffness, numbness, difficulty pronouncing words clearly, and difficulty with eye movements (e.g., upward gaze). Some motor symptoms such as tremor and motor slowing may be obvious, but others such as weakness or stiffness are more subtle and would be missed unless the patient is directly questioned. It is also important to follow up individual questions with further inquiry. For example, when the patient confirms that he or she has balance difficulties, it is important to ask about a history of falls. Keeping in mind that falls are the most common reason for hospitalization among older adults [1], this line of questioning will not only provide information with regard to a past history of possible traumatic injury or the presence of a movement disorder, but it will also alert the clinician to possible safety concerns.

Sensory complaints are subjective and require that patients be able to express their concerns. Typical sensory complaints and areas to assess for include pain, visual and auditory changes (including illusions and possible hallucinations), appetite change (e.g., increased consumption of sweets), changes in smell and odor detection, dizziness, and heart palpitations. Somatic complaints, which can be difficult to disentangle from sensory symptoms, are frequent and include an array of gastrointestinal problems (bowel and bladder), headaches, arthritic pain, and sleep disturbances. Since somatic complaints have been linked to depression [2], this area should be carefully addressed with older adult patients.

Sleep quality plays an important role in alertness, attention, and overall cognitive functioning and is often a contributing factor to cognitive decline [3]. Given the high prevalence of sleep disorders in this age group, clinicians should be aware of common complaints such as difficulty falling or staying asleep, sleep-disordered breathing, frequent awakening, snoring, awakening to a choking sensation, use of sleep aids, feelings of daytime fatigue and napping, and increased movements in sleep. If a family member reports unusual behaviors during sleep such as dream enactment (shouting out loud, punching a bed partner, or other forms of acting out a dream), they should be noted and explored in greater detail for possible REM sleep behavior disorder, a condition associated with parkinsonism. Questions regarding urinary function are important and should extend beyond asking about frank incontinence to include inquiries regarding urinary urgency and frequency, since these may be early features of normal pressure hydrocephalus (NPH) [4]. Additionally, somatic symptoms related to autonomic function, such as impotence and dizziness or hypotension, may be relevant when a movement disorder such

Table 1.1 Examples of question topics for interviewing older adults

Cognitive symptoms	Physical symptoms	Emotional symptoms
Difficulty remembering conversations	Difficulty pronouncing words clearly	Lack of interest in activities
Unsure of previous day's activities	Visual or auditory changes, including illusions	Reduced initiation
Repeating questions	Difficulty with eye movements (e.g., upward gaze)	Apathy
Forgetting why you walked into a room or what you need at the store	Changes in smell and odor detection	Irritability
Difficulty coming up with the right word or remembering people's names	Gait changes (e.g., shuffling, smaller steps, slowing)	Restlessness
Poor attention/concentration when reading or watching television	Reduced balance, increased falls	Depressed mood
Slower thinking and problem-solving	Urinary changes (frequency, urgency, incontinence)	Hallucinations (describe content, quality, e.g., if they elicit fear)
Difficulty planning and organizing tasks, multitasking	Constipation	Inappropriate behavior (e.g., approaching strangers, making inappropriate comments)
Inability to complete multiple steps	Dizziness/heart palpitations	Increased nervousness or worry
Difficulty performing routine tasks, such as making coffee	Numbness, weakness, or tremor	Fatigue or reduced energy
Trouble with new directions, getting lost in familiar places	Appetite changes, increase or decrease (e.g., increased consumption of sweets) Sleep changes	Past or present suicidal ideation

as multiple system atrophy or other Parkinson's plus disorder is on the list of differentials (see Table 1.1 for examples to guide questioning of various symptoms) [5].

Cognitive Symptoms

The most common cognitive complaint among older adults is memory [6]. It has been estimated that subjective memory complaints are as high as 56% in community-based samples [7]. Typical memory complaints are difficulty recalling names, faces, and appointments, problems recalling numbers such as phone numbers, repeating questions, word-finding difficulties, misplacing personal items, disorientation while traveling, and losing one's train of thought [8].

It is not uncommon for a patient to report memory difficulties when, in fact, the problem actually stems from a different cognitive vulnerability that impacts memory. For example, upon closer questioning, the clinician may find that the problem is actually difficulty finding words or attending to task demands and may signify deficits in aspects of cognition other than memory, language, or attention. Another common cognitive complaint is associated with executive dysfunction [9], the category of skills involved in sustaining attention, goal setting, problem-solving, planning, organization, and decision-making. The executive functions have been shown to be a major determinant of one's ability to perform instrumental activities of daily living such as financial decision-making and medication management, and they also predict onset and progression of instrumental functional decline [10]. Examiners should ask directed questions during the interview that relate to specific executive abilities. Topics from which to draw interview questions are listed in Table 1.1.

Emotional Symptoms

Careful questioning regarding mood and personality change is an important part of the interview. First, depression and anxiety complaints, especially at the subsyndromal level, are common among older adults [11]. A survey published by the Centers for Disease Control and Prevention indicated that 16% of suicide deaths were among those 65 years of age and older, higher than the rate of 11 per 100,000 in the general population [12]. Depression in older adults often goes untreated as the symptoms, which may present as somatic or cognitive complaints (e.g., memory problems, confusion, social withdrawal, loss of appetite, weight loss, and irritability), are not recognized as such. Furthermore, symptoms of depression are often mistaken as signs of dementia (see Chap. 4). It is essential that the interviewer take the time to question an individual about past and present suicidal ideation and attempts to self-harm. Any mention of suicidal thoughts or behavior should be carefully followed up with questions aimed at undercovering the seriousness of intent and the necessity for intervention.

Personality change can be an initial symptom of a degenerative disease. In older adults, behavioral symptoms are the presenting feature in frontotemporal lobar degeneration, behavioral variant, and can be observed in various cortical dementias including Alzheimer's disease, early stages of Parkinson's and Parkinson's plus syndromes such as progressive supranuclear palsy, Wilson's disease, Huntington's disease, and myasthenia gravis [13–17]. Symptoms may include disregard for social norms, inappropriate laughing or crying, apathy, and social withdrawal. Although observed more frequently in younger adults, the effect of autoimmune illnesses such as systemic lupus erythematosus and multiple sclerosis can present with psychiatric symptoms, including psychosis [18, 19]. Furthermore, patients with endocrine and metabolic disorders, such as hypoparathyroidism and hypercortisolism, can present with both cognitive decline and psychosis, as well as personality changes [20]. Finally, a careful intake of mood and personality change is especially important in formulating recommendations, which may include pharmacologic treatment, behavioral intervention, or psychotherapy.

Functional Capacity

An individual's ability to perform basic and complex activities of daily living (ADL) is a measure of one's functional status. This is an especially important area to address in the older adult because impairment in social and/or occupational function is a key component to a diagnosis of dementia. A patient's functional capacity should be comprehensively examined, focusing on basic and instrumental ADLs. Basic ADLs include questions pertaining to independence in bathing, dressing, and feeding, whereas instrumental ADLs involve higher-order abilities such as one's ability to pay bills, shop for food and prepare a meal, manage finances, and manage a medication schedule. In some cases, it is challenging to determine whether an individual who lives in a supportive environment (a spouse pays the bills; the staff in the assisted living facility prepares the meals and makes sure patients take their medication) has experienced a change in these abilities or whether the patient has retained the skill but relies on others as a matter of convenience. In this case, it is important to inquire about specific operational skills such as whether the patient is capable of carrying out emergency procedures if left alone, following a recipe if necessary, balancing a check book to pay bills, using email, etc. (see Table 1.2).

Medical History

Documenting a patient's medical history is necessary in order to formulate a differential diagnosis and to make treatment recommendations. A patient's ability to convey this information can be as informative as the history itself. Commonly reported cardiometabolic risk factors known to impact cognition include hypertension, hypercholesterolemia, type 2 diabetes, and heart

Table 1.2 Assessing functional independence/activities of daily living (ADL)

Basic ADLs
Personal hygiene
Toileting (the ability to use a restroom)
Dressing
Feeding oneself
Instrumental ADLs
Managing finances/paying bills
Looking up phone numbers
Doing housework
Using computer
Shopping
Cooking
Making appointments
Driving/traveling
Medication management

disease and vascular conditions associated with ischemia or kidney disease. Clinicians should address past illnesses, surgeries, injuries, and treatments, including metastatic cancer; cardiovascular diseases (e.g., heart disease, stroke); surgeries, especially those involving general anesthesia; alcohol and substance use; prior head trauma, with particular attention to those involving concussion and/or loss of consciousness; periods of confusion; infectious disease (hepatitis C, HIV); and unusual dietary or sleep patterns. How the patient manages these conditions (e.g., checking blood sugar, compliance with blood pressure medication, dietary practices, exercise regimen, etc.) will provide valuable information with regard to an individual's ability to participate in self-care and manage oneself independently. In addition, specific questions should address patient's medication, prescribed and over-the-counter. Past medication and prior hospitalizations should also be addressed with the patient and/or caregiver. Finally, the patient's family medical history should be carefully assessed in order to understand relevant genetic risk factors. This is likely to become an increasingly important area to address given that family health history reflects inherited genetic susceptibility for a large number of neurologic diseases.

Social History

A comprehensive interview should include a careful assessment of one's past social experiences, educational attainment, and occupation. There are many ways to assess this information, but often it is best to probe beyond a simple question. For example, questions pertaining to level of education should always be followed up with inquiries pertaining to quality of education, past history of learning difficulties, school failure, and other issues relating to academic performance, as well as occupational achievement. This can be a challenging area to assess with older adults because societal mores and educational opportunities were different decades ago. Yet, establishing if the patient has a long-standing and developmental vulnerability in cognitive function is critical to understanding if a current level of impairment represents a decline.

Conclusion

The interview is an essential part of a neuropsychological evaluation for patients of any age, but particularly among older adults, because of the myriad of physical, cognitive, psychological, and social changes associated with the aging process. These normative changes are sometimes further compounded by the onset of a disease process. A carefully conducted interview will play a critical role in establishing a diagnosis and generating treatment recommendations. In addition, it provides an opportunity to observe and document information that cannot be obtained from psychometric testing. The interview also creates a forum for establishing rapport with the patient and allows the clinician to verify important demographic and historical information from a caregiver. Guidelines provided in this chapter aim to help develop an interview designed to provide a level of insight and understanding of a patient's presentation, which cannot be obtained through other means.

Clinical Pearls

- The clinical interview provides the opportunity for insight and understanding of a patient's presentation, which cannot be obtained through other means.
- A patient's ability to convey his/her history during the interview session can be as informative as the history itself. Observations regarding a patient's expressive and receptive language, level of insight, and ability to formulate thoughts are as valuable as the test data and scores.
- Use of a combination of interviewing techniques, such as verbal description of complaints, a structured series of questions, and a formal review of each item with the patient and caregiver, is ideal. Using a questionnaire to gather background information can be useful, but this information should always be reviewed with the patient, and follow-up questions should be asked. Patients typically elaborate and provide much more detailed information when questions are asked verbally.
- Do not rely solely on behavioral observations without further probing. For example, motor symptoms such as tremor or paralysis are visible, but other motor abnormalities such as weakness or stiffness are more subtle and would be missed unless the patient is directly questioned.
- Not all complaints should be taken at face value. It is important to ask the patient to give examples of the type of cognitive problems they are experiencing. While memory complaints are the most common, the deficits may actually be in language (e.g., difficulty finding words) or attention (e.g., attending to task demands).
- Personality changes can be an initial symptom of a degenerative disease. Therefore, careful assessment of emotional and behavioral changes is critical. Since patients frequently lack insight into their own behavior, a collateral source should be consulted.
- It can be challenging to determine whether an individual who lives in a supportive environment has experienced a decline in functional independence. Every interview should inquire about specific functional abilities and give examples of instrumental activities of daily living. Knowledge of safety procedures should also be routinely assessed.

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