Neuropsychology in Aging: Best Practices for Cognitive Screening, When to Refer, and What to Expect From a Comprehensive Evaluation

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INTRODUCTION

Recent census estimates indicate that older adults (i.e., 65 years and older) currently make up 17.5% of the United States population[1] and are projected to make up a quarter of the population by 2060.[2] Given these demographic trends, it is important to understand factors that contribute to negative outcomes in the context of aging, while supporting older adults' health and well-being. Normal aging is associated with declines in cognitive functioning, including processing speed, working memory, reasoning, spatial visualization, and memory.[3,4] Furthermore, neurodegenerative conditions (i.e., dementia) are common. Recent estimates suggest that one in nine older adults has Alzheimer's disease dementia.[5] The estimated cost for Alzheimer's Disease and Related Dementias (ADRD) care is $360 billion in the United States.[5] Early detection can identify reversible causes of cognitive impairment and help plan for the inevitable declines with the progressive causes.

UTILITY OF COGNITIVE SCREENERS

Cognitive screeners aim to provide an overview of a patient's cognitive functioning and are particularly helpful within medical settings because they can be administered quickly (i.e., within three to 15 minutes), do not require extensive training to administer, and may help identify individuals who would benefit from a more detailed cognitive evaluation. Cognitive screeners may be particularly helpful in evaluating individuals who are members of groups at risk of cognitive dysfunction (e.g., older adults). Using these screeners aligns well with recommendations encouraging evaluation in primary care settings (e.g., Medicare Annual Wellness Visits[6]), where patients are most likely to present with concerns. If time constraints limit the feasibility of screening tools, providers can ask their patients if they have concerns about their memory and consider scheduling a separate follow-up visit to focus on cognitive screening and care planning, if appropriate. Normalizing conversations around brain aging may help patients feel comfortable bringing up concerns if they do notice an issue in the future.

Frequently used brief cognitive screeners include the Mini-Mental State Examination (MMSE),[7] Kokmen Short Test of Mental Status (STMS),[8] and the Montreal Cognitive Assessment (MoCA).[9] Despite their utility, limitations of cognitive screeners include their inability to capture specific patterns of impairments or severity of dysfunction.[10] Screeners are thought to be less sensitive when used on individuals with higher levels of education,[11] low literacy,[11,12] or among individuals from historically marginalized backgrounds.[12] Although poor performance on a cognitive screener suggests that referral for a rigorous, neuropsychological evaluation may be helpful, the converse is not necessarily true. Neuropsychological assessment may still be warranted in cases of intact screening performance, for example, if a patient reports cognitive symptoms are interfering with daily functioning, or there is a significant family history of dementia.[11] Newer digital assessment tools are increasingly available[13,14] and, when appropriately validated for clinical use, may help address some of the barriers of traditional paper-and-pencil screening measures through features such as automated administration and scoring as well as electronic medical record (EMR) integration.[15]

CLINICAL NEUROPSYCHOLOGY

Clinical neuropsychologists are doctoral-level psychologists who use their expertise of brain-behavior relationships to evaluate, diagnose, and provide tailored treatment recommendations for individuals experiencing cognitive dysfunction.[16] In the context of referrals for older adults, clinical neuropsychologists can aid in assisting with the formulation of an accurate differential diagnosis, clarifying disease progression, and evaluating a patient's decision-making capacity.[17,18] Referrals from healthcare providers may be appropriate in several instances: 1) A patient presents with concerns (ideally corroborated by a family member or friend and confirmed with a cognitive screening); 2) A discrepancy between cognitive screening and self-reports of cognitive functioning emerges; 3) A focal cognitive impairment is identified; 4) The patient's cognitive functioning may be affected by multiple factors, such as chronic medical illness, psychiatric distress, pain, or a neurodegenerative process, that require further evaluation; 5) Mapping trajectory of cognitive functioning may be helpful with suspected mild cognitive impairment (MCI). Appointments include an in-depth clinical interview (typically 60 minutes), neuropsychological assessment (90–120 minutes), and feedback session (60 minutes).

CLINICAL INTERVIEW

During the clinical interview, the neuropsychologist takes comprehensive stock of the patient's developmental, academic, medical, psychiatric history, and social factors (e.g., social support). Interviews may also include care partners (e.g., family members, like a spouse or adult children) who know the patient well. Neuropsychologists glean information about the onset and course of cognitive symptoms and determine whether difficulties have interfered with activities of daily living (ADLs) through a comprehensive clinical interview. Instrumental ADLs include the patient's ability to manage finances, prepare meals, and manage medications, while basic ADLs include feeding, dressing, and personal hygiene.[19] Assessing ADLs is particularly important because the diagnosis of a major neurocognitive disorder (i.e., dementia) requires a significant decline in one or more cognitive domains, with the stipulation that these deficits interfere with ADLs. Taken together, these interviews can help clarify the severity of cognitive dysfunction that the patient is experiencing, assist with differential diagnosis, and help with the development of a care plan, if needed.

ASSESSMENT

Following the clinical interview, neuropsychologists use a battery of reliable, valid measures to assess a patient's cognitive strengths and weaknesses. While some neuropsychologists utilize a fixed battery approach, others use a flexible approach to construct a neuropsychological battery. Fixed batteries use the same, standardized assessments regardless of the patient's history, referral question, or presenting symptoms. However, most neuropsychologists adhere to a flexible evaluation approach that maintains a fairly standardized set of measures, with some flexibility to tailor evaluations based on the referral question, suspected neurodegenerative process, severity of impairment, and performance on the evaluations.[20] Typically, at least two tests are given for each of the following cognitive domains: attention and processing speed, executive functioning, language (comprehension, fluency, repetition, naming), visuospatial, learning and memory, and motor abilities. Testing is helpful for gaining a comprehensive understanding of current mood symptoms and psychiatric distress in a quantitative way by assessing symptoms of depression, anxiety, posttraumatic stress disorder, etc. on validated questionnaires.

RESULTS

Following the clinical interview and assessment, the neuropsychologist then integrates information from the evaluation with available medical records into a comprehensive report that is submitted to the referring provider. Using norm-based comparisons, neuropsychologists are able to glean an individual patient's performance compared to others of a similar demographic (e.g., age, sex, education) group.[21] Neuropsychologists take time to integrate the influence of important sociocultural, linguistic, and situational factors into how patients may present during the evaluation as well as consider the limitations of single timepoint assessment.[22]

A determination will be made regarding whether the patient meets criteria for a neurocognitive disorder based on the Diagnostic and Statistical Manual of Mental Disorders-Text Revision (DSM–5-TR).[23] Severity and a listing of reasonable etiologies is generated.

RECOMMENDATIONS

Neuropsychologists provide comprehensive, tailored recommendations based on the patient's diagnosis, projected disease progression, impact on daily functioning, comorbid medical and psychiatric conditions, and personal values. Neuropsychologists may provide compensatory strategies to mitigate deficits in cognitive functioning. Rather than attempting to restore function, compensatory strategies are used to optimize patients' quality of life.[24] Results from one survey indicated that the vast majority of neuropsychologists (i.e., 85.7–100% of surveyed neuropsychologists) provide compensatory strategies across different clinical presentations, including dementia.[25] Patients may be encouraged to break complex tasks into smaller steps, write notes in a reliable location (e.g., a notebook kept in pocket), use a calendar to keep track of appointments, stick to a fixed schedule, etc.

Neuropsychologists also provide recommendations to target potentially reversible causes of cognitive dysfunction, including psychosocial stressors, psychiatric distress, poor sleep, chronic pain, or polypharmacy. For example, neuropsychologists may suggest an appointment to discuss medication reconciliation in the context of high anticholinergic burden, or talk to patients about sleep or headache hygiene. Addressing modifiable factors of dysfunction is of paramount importance since targeting them can improve cognitive outcomes and quality of life substantially. For individuals with dementia, recommendations may include discussing the benefits of having a trusted person to assist with making sound financial, medical, and legal decisions, as well as exploring long-term care options, such as family support, in-home assistance, or placement in a long-term care facility. When a patient's prognosis or cognitive trajectory is unclear or likely to change substantially in the future, a repeat evaluation may also be recommended.

RHODE ISLAND

It is essential that the healthcare landscape accommodates to the shifting demographics as the population of older adults in the United States rapidly grows. Neuropsychologists are specialists trained to assess, diagnose, monitor, and provide treatment recommendations related to healthy and unhealthy brain aging. Utilizing this resource may be of particular importance for Rhode Island residents, since Rhode Island has the highest proportion of adults aged 85 and older of any state.[26] Rhode Island, like many states, currently faces

a shortage of primary care providers and long wait times for neuropsychological evaluations. Optimizing early detection and management of mild cognitive impairment and dementia requires a multipronged approach, including patient and family education to reduce disease stigma and promote brain health awareness, provider education, and resources to ensure that basic steps can be made to address patient or family members concerns about cognitive decline. Although dementia due to neurodegenerative disease is always a progressive illness, many aspects of care can be managed by general practitioners similar to other common conditions in aging, such as diabetes and heart disease.

Articles that may be helpful:

- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3341654/pdf/DialoguesClinNeurosci-14-91.pdf
- https://practicalneurology.com/articles/2021-june/clinical-approach-to-dementia
- https://practicalneurology.com/articles/2021-june/neuropsychologic-approaches-to-dementia
- https://academic.oup.com/acn/article/32/5/541/3852214
- https://academic.oup.com/acn/article/34/3/418/5126782
- https://www.sciencedirect.com/science/article/abs/pii/0887617786900211
- https://www.sciencedirect.com/science/article/abs/pii/B9780080450469009967?via%3Dihub
- https://www.kaerbrain.org/
- https://familymedicine.uw.edu/cpc/clinical-tools/

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Disclosures

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