Cultural Diversity in Neuropsychological Assessment
Developing Understanding through Global Case Studies
Farzin Irani, Desiree Byrd

Neuropsychological Assessment with Older Russian-Speaking Immigrants

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Section I: Background Information

Terminology and Perspective

For consistency, Russian immigrants referred to throughout this chapter are first-generation immigrants, who came from Russia to the United States as adults. The perspective provided in this chapter is that of a native Russian speaker brought to the United States as a teenager by a first-generation Russian immigrant (IP). I completed high school and all higher education in the United States, where I currently practice in a private outpatient setting.

Geography

Russia comprises much of central, northern, eastern Europe and northern Asia. It borders Norway, Finland, Estonia, Latvia, Lithuania, Poland, Belarus, Ukraine, Georgia, Azerbaijan, Kazakhstan, Mongolia, China, and North Korea. It is the world’s largest country and its climates, vegetation, and soils span vast distances from tundras, coniferous forests, grasslands, and semi-deserts.

History

During the Soviet period, wars, epidemics, famines, and state-sanctioned mass killings claimed millions of lives. During the famine in the 1920s and 1930s, the Great Terror of Joseph V. Stalin in the 1930s, and World War II, an estimated 33.6 million people died. The long-term effects of such disasters lingered and were felt for generations. In the 1990s, the government identified significant reduction in birth rates, increased mortality among males, and declining life expectancy for the population. As the Soviet Union fell apart, immigration to Russia increased in numbers, creating a multicultural state. Representatives from Soviet republics (Ukraine, Georgia, Belarus, Armenia, Azerbaijan, Kazakhstan, Kyrgyzstan, Moldova, Turkmenistan, Tajikistan, and Uzbekistan) announced that they would no longer be part of the Soviet Union. Instead, they declared they would establish a Commonwealth of Independent States. As the iron curtain was lifted, the Soviet Union collapsed, and instead of seeing an influx of mostly Jewish Soviet immigration, waves of refugees of other ethnic groups, such as ethnic Russians, Ukrainians, Belarusians, Armenians, Georgians, and Uzbeks immigrated to the United States from the former Soviet republics.

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**Education and Literacy**

The educational attainment levels and professional status of immigrants from the Former Soviet Union have been relatively high. Universal primary education ensured literacy among the population. The educational system was subdivided into shifts; early morning classes were reserved for younger students whereas older cohorts took courses in the afternoons. The sciences and mathematics were strongly emphasized, though special clubs were freely available and covered a range of other topic areas. Institutes and Universities were a major part of higher education, allowing those outside the Former Soviet Union in the mid-1970s to be exposed to the culture and ideals of the USSR. Despite having high levels of education, however, older Russian-speaking immigrants may not be able to fully transfer their skills to the US labor market. Currently, levels of education in Russia are comparable to that of the United States, despite differences in the overarching structure of two systems.

**Immigration and Relocation**

Per estimates provided by the US Census Bureau in 2019, over two million Russian Americans are living in the United States; though less than a quarter of this number reflects foreign-born citizens. Most immigrants identify Russian as their first language, and are originally from the urban centers of Russia, Ukraine, and Belarus. A smaller subgroup is from other former Soviet republics, such as Kazakhstan and Uzbekistan. They vary widely in terms of years of residence in the United States. A recent survey by Remennick points out that even after over a decade of close co-existence, social and cultural gaps remain between host countries and Russian immigrants.

**Language and Communication**

Russian is the 7th most common spoken language in the world, with about 260 million people speaking the language globally and about 150 million native Russian speakers. Chiswick states that Russian immigrants in the United States appear to willingly “surrender” to the hegemony of English, consider it superior to Russian and other Slavic languages, and realize its utmost importance for economic success in the United States. Interestingly, but not surprisingly, despite using English in professional domains, Russian-Americans speak primarily Russian at home, though more research is needed to further investigate this.

Russian speakers should be carefully assessed on whether Russian language is their native “mother tongue” to establish their familiarity, prior to making an assumption that Russian is the most preserved language. If a regional dialect exists, it should be documented, and attempts should be made to ensure that the examiner is able to understand the patient and ensure adequate receptive language. If the examiner is not familiar with the dialect enough to conduct an evaluation, it is imperative to ensure that the interpreter is experienced with the particular regional dialect of the patient.

**Socio-Economic Status**

According to the 2019 US Census Data the average individual income was just below 60,000 dollars for over 2 million self-identified Russian-Americans. 4.9% of families fell below the federal poverty line, and 6.8% of all households qualified for food stamps or federal nutrition assistance program such as Supplemental Nutrition Assistance Program (SNAP) benefits.
Russian-speaking immigrants tend to appreciate and value economic stability, religious freedom, high-quality education, medical care (e.g., right to choose their providers), and right to choose where to live. Additionally, Granovetter commented that Soviet immigrants had different concepts of friendship in which friends were “confined to a very small circle of personal friends with whom people developed strong family-like personal ties, while a broader circle of people, with whom the individual has contacts, is perceived as consisting of either indifferent or even hostile individuals.”

Immigration to the United States is less common among Russian millennials, making it difficult to directly comment on the culture and values of this generation and how it may differ from their predecessors. This younger group is nonetheless present in the current US education system and workforce, however, they appear to be less motivated than older cohorts to make a permanent home in the United States. In our (IP & DG) experience, this group often arrives in the United States with relatively stronger English skills, financial resources, and academic strengths which would (in theory) promote their integration in the mainstream US culture. Despite these advantages however, this younger generation, much like their predecessors, may lack the cultural fluency to seamlessly integrate themselves among their US contemporaries. Consequently, if patients cultural backgrounds and level of acculturation are not appropriately considered, there is a high risk of miscommunication, which may lead to social isolation, suicidality, legal consequences, academic/occupational difficulties, and over-diagnosis or oversimplification of an individual. Further, we (IP & DG) have seen that much like older Russian immigrants, this younger generation may possess attitudes around mental health (described below) that are prohibitive to obtaining treatment prior to their symptoms becoming unbearable.

In attempting to build rapport, evaluators should make efforts to strike a connection with their Russian-speaking patients. There are certain factors to promote rapport building including perceiving the neuropsychologist as educated, experienced, and knowledgeable. Speaking Russian may further promote rapport; however, it is important to be aware that an educated Russian-speaking older adult may correct providers’ grammar in the “mother tongue” when an opportunity presents itself. Gender or age of the examiner may influence this as well.

Russian-speaking patients appear to be more receptive to accept recommendations and even make positive changes when recommendations focus on physical health and safety. Motivational interviewing may promote integration of family members in a discussion to ensure patients “stay young” to help with grand- or great-grandchildren. This motivational lens may allow neuropsychologists to collaborate with family further to help reduce impact from pain, sleep disturbance, or mood.

When conducting feedback with families of older adults seen for neuropsychological evaluations, providers should note that dementia diagnoses are often considered “bad news” or a “verdict.” Patient’s families may be accustomed to being the first to receive the results (even before patients themselves) and making the decision of whether or not to share information with the patient. I (IP) have experienced partners and children spending time in feedback sessions interrupting, rephrasing, paraphrasing, and “sugarcoating,” to avoid the words “dementia” or “Alzheimer’s disease.” This presents an ethical quandary for psychologists practicing in America, whose ethical standards implore them to make feedback available to patients in a comprehensible manner using terms they understand. Thus, it falls to the psychologist to balance respect of cultural norms and fulfillment of the ethical obligation to patients. We strongly encourage readers to use interpreter services during these conversations, rather than relying on family members who may be reasonably motivated to downplay the severity of the results.
Health Status

Research on life expectancy around the time of Soviet Union’s collapse shows a decreased life expectancy among both men and women,\(^9,10\) as well as increases in alcohol and tobacco use among Russian adults who lived through this period.\(^11,12\) Compared to a small sample of American citizens, Russian immigrants showed higher rates of vascular disease compared to their same-aged white counterparts.\(^13,14\) Interestingly, a recent study by Mehta and Elo\(^15\) found that disabled Russian immigrants in the United States are more independent in activities of daily living compared to their Russian-residing counterparts. This may reflect relative differences in services available or even the accessibility among the two countries. Regardless of the precise mechanisms at play, successful immigration to the United States may have yielded a net-positive effect for this group, despite the long-term health implications from the conditions surrounding the former Soviet Union’s collapse.

While many patients have cardiac problems or other chronic medical conditions, underlying concerns of mistrust of the healthcare system and relatively lower health literacy have been found to impede healthcare utilization among Russian immigrants.\(^16\) In my (IP) practice, common diseases seen in Russian-speaking immigrants include diabetes, hypertension, coronary artery disease, gastrointestinal problems, and alcohol and substance abuse. There is a perception that an illness or disability comes from something the individual has done (e.g., poor diet, not dressing warm enough). I often hear from my older patients, “If I am not in pain, I am in good health.” Thus, diabetes, hypertension, and hyperlipidemia, may go unnoticed and untreated.

Mental Health Views

In my (IP) experience, Russian-speaking immigrants are often reluctant to seek help or share their personal issues with people outside of their immediate family. Shame is at times one of the main reasons. Some Russian immigrant patients arrive at the United States with common diagnoses, such as Major Depression and Generalized Anxiety,\(^17\) whereas others with relatively lower levels of acculturation to American culture are less likely to seek mental health treatment.\(^18\) In some cases, it is clear that mood disorders dominate Russian immigrants’ presentations. Despite openness and willingness to take medications to manage mental health, there is often reluctance to engage in psychotherapy. This may stem from both a cultural lens of viewing psychotherapists as authority figures, and beliefs that gaining relief from talk therapy is unrealistic. Kohn, Flaherty, and Levav used the term “psychophobia" when describing Soviet Jewish immigrants’ tendencies to avoid considering their problems as psychological with preferences for viewing them as biological or physiological.\(^19\) However, even when patients are willing to engage in psychotherapy, there is often a lack of counseling services available in Russian, presenting yet another barrier for these patients. In my (IP) experience, formal diagnosis of mental illness may carry stigma or be perceived as limiting one’s employment opportunities and social prospects. I have found rapport and trust building opens opportunities for discussions around identity, trauma, and uncertainty that many immigrants experience in silence.

Neuropsychological Approach

Neuropsychology’s history in Russia dates back to the early 20th century with Alexander Luria’s and Lev Vygotsky’s work of characterizing brain-behavior relationships.\(^20\) At a time when studying outwardly observable phenomena (e.g., behaviors and reflexes) was the dominant dogma of psychological research, Vygotsky presented a novel theoretical framework promoting the
measurement of cognitive aspects of psychology. Vygotsky's ideas quickly caught the attention of a young Alexander Luria, who, along with others in their research group, provided the foundation for quantifying and qualifying higher mental processes. Luria's subsequent contributions and methodology to studying and localizing attention, language, memory, and self-regulatory systems in the brain would go on to influence clinical neuropsychology as we know it today. Notable among the many outgrowths of his contributions is the clinical-theoretical approach of syndrome analysis to identify disrupted cognitive functions and their relation to patients' behavior.

The ideas seeded by Luria and Vygotsky continue to spread and evolve across the world, influencing contemporary assessment tools and approaches to neuropsychological evaluations. Further, Luria's belief in the brain's capacities to reorganize itself and recruit intact cognitive abilities in a compensatory effort remains among his most profound contributions to neuropsychology and neurorehabilitation. To say the least, the Vygotsky-Lurian framework is deeply imprinted on modern methods for diagnosing and managing neurocognitive dysfunction, even in the United States. We recommend Luria's The Working Brain and Higher Cortical Functions in Man to readers interested in learning more about his principles and contributions.

Luria's approach continues to be prevalent in neuropsychological assessment within the Former Soviet Union. As Glozman puts it, "A psychophysiological orientation for Russian neuropsychology, in contrast to the predominantly neurological orientation in Western contributions, favored the continued development of this field in Russia and assured its predominance in several areas of study: the first descriptions of sensory aphasia and visual agnosia, the first linguo-statistic analysis of aphasia, strong foundations for the systematic approach to investigations of brain damages, and so on (p. 177)."

Research continues to examine clinical validity of tests developed and normed in the United States with Russian-speaking individuals. Presently, assessment tools in Russian are limited. Most measures that do exist, do not have validated documented norms and lack publications pertaining to their reliability and validity. This shortage of psychometrically evaluated assessment instruments makes it challenging for clinicians in the United States to draw clear and consistent distinctions between normal aging and potential cognitive impairments, and measure reliable change over time.

I (IP) often find that older Russian patients living in mainstream culture may have difficulty communicating their early disease symptoms, which may lead to more difficulty being accurately diagnosed and treated in the early phases of their disease. Furthermore, it is sometimes the case that family members or partners of these immigrant elders do not have the language skills to explain the symptoms, or may be reluctant to share and communicate their symptoms with family members who can assist with translation to avoid overwhelming them.

In my (IP) practice, the most common scenario for evaluating bilingual and bicultural older immigrants with cognitive decline consists of utilizing language interpreters, translating self-report measures, and administrating selected subtests with minimal dependency on language and culture. This approach of test selection is often further burdened by the fact that concepts do not always perfectly translate across languages. Further, language abilities may decline in individuals with possible neurodegenerative processes, forcing a qualitative examination of language skills or even greater deviation from standardized administrative protocols. Further, a 2021 study by Melikyan, Puente, and Agranovich suggested that urban-dwelling Russians may underperform on neuropsychological tests compared to their American counterparts due to differing cultural attitudes toward timed performance, multiple-choice format, attention to detail, and short-term memory demands. Disclaimers are therefore included to ensure scores are interpreted with caution due to necessary modifications to accommodate our patients as well as the scarce normative samples representing an individual's cultural and linguistic group.
Section II: Case Study — “From Motherland to the Land of Opportunity”

To help illustrate some of the concepts described in the preceding section, we provide a de-identified case study of a right-handed, married, Russian immigrant gentleman in his mid-80s who was seen for neuropsychological testing in 2018 and again in 2019. He presented with a basic knowledge of conversational English (based on informal observations), however, he preferred to speak in Russian whenever possible.

Referral Question and History of Presenting Illness

The patient was referred by his primary care physician to assess for cognitive impairments and provide treatment recommendations. During his initial evaluation, the patient reported a two-year history of worsening decline in attention, concentration, and recall of information (with some benefit from cuing). He added that he enjoys learning poems but finds it more challenging to learn and retain new material. He has attempted to develop compensatory strategies with inconsistent success. There was no reported decline in the management of his personal or instrumental activities of daily living (ADLs).

Of note, the patient displayed slight word finding difficulties during the 2018 interview. He was unable to state the exact age of his siblings, how many years he had worked in the United States and when he retired. He also could not give names of his grandchildren, which is atypical due to strong familial ties, and the importance of family and of connection to children and grandchildren within the Russian culture. For Russian immigrants, family members may very well be their main social contacts. Many older adults and their children maintain close ties through regular and frequent visitation and phone conversations.34,35

The patient described being frustrated with his perceived cognitive declines and lack of improvement with management of his medical conditions. He was previously on a blood pressure medication for two years and discontinued his medication due to perceived ineffectiveness in improving his cognition. He had not reached out to his medical care team due to not wanting to burden others with his concerns. He felt ashamed of “cognitive slippage,” worried that his family and friends would notice, leading to increased isolation and depression. He preferred to be seen by his medical doctors without an interpreter to ensure he is viewed as competent and capable of explaining himself, which may have interfered with providers hearing his exact concerns. As his cognitive difficulties persisted, his wife became his spokesperson, and decision-maker, thereby continuing the pattern of limited acknowledgment of his cognitive decline.

Medical History

Medical history was notable for hyperlipidemia, hypothyroidism, chronic kidney disease, and osteoporosis. He denied any history of significant psychiatric illness or mood disturbance; however, he was prescribed nitroglycerin, pravastatin, citalopram, and aspirin at the time of our evaluation. When asked about why he was taking citalopram, he responded that his doctor thought he needed it. This dynamic likely reflects the cultural perceptions surrounding mental illness noted earlier in the chapter; while the patient does not identify as having a mental illness, he is willing to take an antidepressant on recommendation from his physician. This begs the question if this patient was fully aware of the nature of this medication, or if he was instead minimizing his depressive symptoms for fear of stigmatization.

Prior Neurodiagnostic Studies

MRI of the patient’s brain in 2011 showed a few tiny foci of T2 hyperintensities suggestive of small vessel disease. He underwent neuropsychological testing at a major medical center in the area
in 2016; however, this evaluation was completed entirely in English. The evaluator’s impressions were that the patient presented with a mild, non-amnestic cognitive impairment of unclear etiology, with potential contributions from sleep problems and vascular risk factors.

**Personal History**

The patient was born and raised in Russia and is fluent in Russian. He left Russia at age 65 for economic reasons and to avoid antisemitism for himself but mostly for his children. He “has never looked back” or considered returning to his country of birth. He took English language courses upon arrival and passed the US Citizenship examination without difficulty. He described having a limited number of friends who were all Russian-speaking immigrants. He reported that he did not miss his country of birth, but did miss family and friends, most of whom were Jewish Russian refugees in other parts of the United States and Israel. His parents spoke Yiddish, which he did not learn to speak fluently. His father and mother died around the ages of 81 and 70, respectively, without signs of cognitive decline. He has a brother in his 50s without cognitive problems. The patient held a doctoral degree and worked in Engineering while in Russia. Upon arrival in the United States, he worked as a computer programmer after completing a certification and retired in early 2000s. After his retirement, he volunteered at a local school.

**Results and Impressions of Initial Neuropsychological Evaluation**

The evaluation was conducted in Russian, including translation of all neuropsychological measures used during the assessment. Tests developed by the Consortium to Establish a Registry for Alzheimer’s Disease (CERAD) were utilized as this battery has been already successfully translated into German and French and the Russian adaptation was utilized with permission from Dr. Glezerman (personal communication with Dr. Glezerman; http://www.scarletline.com/aglezerman/CERAD.html). Appropriate age and educationally corrected norms were used (see Appendix).

Additional measures administered included a standard core battery that is given to most Russian-speaking immigrants referred for baseline evaluation in my practice to rule out a neurodegenerative process (see Table 38.1). WAIS-III Digit Span was utilized because it is easily translatable to Russian. The Clock Drawing Test was used as a screening measure of spatial planning using scoring adapted by Mendez, Ala, and Underwood and normative data from Suhr et al. The Color Trails Test was used, as it has been shown useful in cross-cultural studies and is similar to Trail Making Test A and B, with studies suggesting that even colorblind individuals are able to differentiate the difference between colors on the basis of differing grayscales. Color Trails allows for measurement of speed of processing and set-shifting. Semantic fluency was measured with an Animal category fluency task using normative data from Mitrushina, Boone, and D’Elia. Phonemic fluency was measured by selecting letters previously examined by Dr. Glezerman and her team (personal communication with Dr. Glezerman and http://www.scarletline.com/aglezerman/CERAD.html). The Behavioral Dyscontrol Scale (BDS) was utilized to examine motor planning/sequencing, and simple inhibition. The Beery Visual-Motor Integration Test (VMI) was administered as a measure of construction ability. The Line Orientation subtest from the Repeatable Battery for the Assessment of Neuropsychological Status (RBANS) was administered to examine visuospatial abilities.

During testing, more complex instructions had to be repeated and slight perseveration and difficulties with inhibitory control were noted. The patient lost set several times on more challenging tasks. The results of the testing were felt to reflect an accurate estimate of his neurocognitive functioning at that time. He paid close attention to the examiner’s pronunciation and use of Russian language, at times correcting the examiner when a more appropriate word could have
been utilized when explaining a task. Throughout the evaluation, he was acutely aware of when he was being timed, making sure that the examiner was aware that he valued accuracy over speed. The information below reflects the more salient aspects of his performance in the context of his cultural background. A more comprehensive list of his results is provided in Table 38.1.

He was only partially oriented to time, stating it was “1918” and the date was the 30th (only one day off). He could not name the President of the United States, adding, “I can never remember his name.” He incorrectly stated the name of the previous US President; however, he correctly named his immediate two predecessors. He could not tell me the name of other locally elected officials. This was somewhat atypical for this patient given his longstanding interest in national and local politics.

He could not correctly spell “WORLD” backward in Russian. On the BDS, which is generally devoid of cultural and linguistic components, Luria’s reciprocal motor programming tasks were performed slowly with multiple perseverative errors (right hand worse than left). On go-no-go tasks, performance was notable for echopraxic errors. He was not able to perform simple or complex motor sequences. Gesture mirroring was performed incorrectly, even after prompting. His ability to copy a clock to command was within expectation (Figure 38.1).

During a task of pattern recognition and cognitive flexibility based on examiner feedback, he failed to enter the task set and the task was discontinued.

Notable observations regarding his language included him requiring repetition of two-step instructions and impaired Semantic fluency; though the latter reflected loss of and failure to regain task set.

Table 38.1 Results of neuropsychological testing

<table>
<thead>
<tr>
<th>Test name</th>
<th>2018 Raw</th>
<th>Z-score</th>
<th>2019 Raw</th>
<th>Z-score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clock Drawing Test</td>
<td>17</td>
<td>−0.7</td>
<td>7</td>
<td>&lt;-3.0</td>
</tr>
<tr>
<td>Cancellation As</td>
<td>5 omissions</td>
<td></td>
<td>10 omissions</td>
<td></td>
</tr>
<tr>
<td>WAIS-III Longest Span Forward</td>
<td>6</td>
<td>0</td>
<td>6</td>
<td>0.1</td>
</tr>
<tr>
<td>WAIS-III Longest Span Backward</td>
<td>4</td>
<td>0</td>
<td>2</td>
<td>−2.2</td>
</tr>
<tr>
<td>Trails 1 (secs)</td>
<td>86”</td>
<td>−1.3</td>
<td>145”</td>
<td>&lt;-3.0</td>
</tr>
<tr>
<td>Trails 2 (secs)</td>
<td>346”</td>
<td>−3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wisconsin Card Sorting Test</td>
<td>Discontinued</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phonemic fluency</td>
<td>42</td>
<td>0.7</td>
<td>30</td>
<td>−0.3</td>
</tr>
<tr>
<td>BDS</td>
<td>See text</td>
<td></td>
<td>See text</td>
<td></td>
</tr>
<tr>
<td>RBANS: Line orientation</td>
<td>16</td>
<td>0.2</td>
<td>Not administered</td>
<td>Not administered</td>
</tr>
<tr>
<td>Beery VMI</td>
<td>25 (Pic. 3)</td>
<td>0</td>
<td>22 (Pic. 4)</td>
<td>−0.7</td>
</tr>
<tr>
<td>CERAD list learning</td>
<td>2/1/3</td>
<td>−1.7/−3.8/−3.1</td>
<td>3/3/3</td>
<td>−1.1/−2.4/−3.1</td>
</tr>
<tr>
<td>CERAD delayed recall</td>
<td>0</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>CERAD Savings</td>
<td>0%</td>
<td></td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>CERAD recognition True Positives</td>
<td>2</td>
<td>−5.6</td>
<td>7</td>
<td>−1.8</td>
</tr>
<tr>
<td>CERAD recognition true negatives</td>
<td>8</td>
<td>−6.0</td>
<td>9</td>
<td>−2.9</td>
</tr>
<tr>
<td>BVMT-R total learning</td>
<td>10 (3/4/3)</td>
<td>−1.7</td>
<td>6 (0/3/3)</td>
<td>−1.5</td>
</tr>
<tr>
<td>BVMT-R delayed recall</td>
<td>2</td>
<td>−1.9</td>
<td>2</td>
<td>−1.6</td>
</tr>
<tr>
<td>BVMT-R % retained</td>
<td>50</td>
<td>−2.2</td>
<td>67</td>
<td>−1.1</td>
</tr>
<tr>
<td>BVMT-R recognition</td>
<td>6</td>
<td>0.5</td>
<td>5</td>
<td>−1.2</td>
</tr>
<tr>
<td>Boston Naming-15 item</td>
<td>13</td>
<td>0.3</td>
<td>13</td>
<td>−0.3</td>
</tr>
<tr>
<td>Semantic fluency (Animals)</td>
<td>1 (lost set)</td>
<td>&lt;-3.0</td>
<td>2</td>
<td>&lt;-3.0</td>
</tr>
<tr>
<td>GDS-S</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Abbreviations:** BDS = Behavioral Dyscontrol Scale; Beery VMI = Beery-Buktenica Developmental Test of Visual-Motor Integration; BVMT-R = Brief Visuospatial Memory Test-Revised; CERAD = Consortium to Establish a Registry for Alzheimer’s Disease; GDS-S = Geriatric Depression Scale-Short Form; RBANS = Repeatable Battery for the Assessment of Neuropsychological Status; Trails = Color Trail Making Test; WAIS-III = Wechsler Adult Intelligence Scale-Third Edition.
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Turning to memory, learning of a wordlist in his native language was impaired, without evidence of benefit from repetition of the information. He could not recall any of the words following a brief delay, which may owe to his poor learning. Overall recognition discriminability was in the impaired range, and he identified 2/10 words without any false positive identifications.

On a mood questionnaire translated to Russian, he endorsed mild symptoms of depression, including feeling that his life is empty, experiencing slight hopelessness and helplessness. He did appear to be very concerned about perceived cognitive changes.

Overall, results of his initial evaluation were suggestive of a Mild Neurocognitive Disorder given the level of impairment observed on testing in the context of a man with high educational and occupational attainment. Although there were no declines in his ADLs, the level of impairment on testing raised concerns for an incipient Major Neurocognitive Disorder. Cognitive dysfunction secondary to cerebrovascular disease burden seemed to be the most salient contributor to his presentation. Poor orientation to time raised concerns for contributions from an emergent Alzheimer’s disease; however, intact object naming and visual memory storage made this difficult to rule-in or rule-out definitively.

We encouraged him to obtain updated brain imaging and repeat neuropsychological testing in 9–12 months for further monitoring of his cognitive problems and additional etiological clarification.

**Follow-Up Evaluation One Year Later**

The patient returned for follow-up testing and was accompanied by his wife and his child. His wife stated that she had noticed changes leading up to their move to their new place of residence this year, and that she found it easier to handle the move without his involvement (a considerable change from how they previously handled such situations). She reported observing poor follow-through on tasks, losing items around their home, and more tangentiality in conversation. He also began contacting his wife several times a day at her job for reassurance and to ask repetitive questions. His wife took over their finances around 12 months prior to this appointment, and he was no longer driving alone because his wife was concerned about his safety.

Additionally, his wife reported that he began referring to her as someone else around two months ago. Specifically, there were times when he talked about his wife as if she was not present. He has also developed visual hallucinations (i.e., seeing children and young adults) within the last three months, which he does not experience as distressing.

![Figure 38.1 Clock drawing 2018 evaluation](image-url)
Per our previous recommendation, the patient obtained updated neuroimaging. An MRI of his brain from 2018 revealed mild chronic small vessel ischemic changes and moderate prominence of perivascular spaces bilaterally. There were generalized atrophic changes, with notable prominence of the Sylvian fissures, which were more pronounced relative to 2011. Hippocampal atrophy and posterior parietal atrophy were also noted. An old microhemorrhage was noted within the right basal ganglia as well as chronic microhemorrhages in the left inferior frontal lobe.

**Results and Impressions of Follow-up Neuropsychological Evaluation**

Orientation was limited; he knew the year, but not the month, date, or day of the week. He could not name the current President or the previous President of the United States. He could not identify the city he was living in; however, he could identify his previous town of residence with prompting. During the meeting, he appeared to vaguely recall the examiner. After re-establishing rapport, he no longer eagerly corrected the examiner’s grammar or sentence structure. Spontaneous speech was reduced significantly.

On testing, simple and complex motor programming tasks were performed with errors and difficulty. He made impulsive and repetitive errors during simple motor programming and failed to correctly execute a complex motor program. His clock drawing, which he had previously completed without error, was notable for omission of numbers and one of the clock hands (Figure 38.2). In terms of language, confrontation naming was intact. Semantic fluency was impaired. Visuoconstruction was low average, and significantly lower than his performance in 2018. Verbal and visual learning were impaired, as were delayed spontaneous recall. Recall of verbal and visual information were similarly impaired when assessed with a recognition format.

Overall, results were most notable for declines in orientation, processing speed, aspects of executive functioning, and visuoconstruction, as well as ongoing impairments with verbal and visual memory. We felt a Major Neurocognitive Disorder was appropriate given then recent declines in his ADLs. The etiology was likely multi-factorial, with contributions from cerebrovascular disease which likely contributed to the emergence of a Capgras delusion (i.e., thinking his wife is someone else). His pattern of decline and consistently impaired memory alongside evidence of hippocampal atrophy on imaging suggested an emergent Alzheimer’s disease process was also contributing.

The discussion of results of assessment for both authors is the most important part of the evaluation process. Subsequently, for this patient, it was prudent to deliver verbal feedback to the

*Figure 38.2 Clock drawing 2019 evaluation*
patient and his family as well as his referring providers. Recommendations were also provided both verbally and in writing.

We made the following recommendations:

1. Metabolic and blood testing were strongly encouraged to ensure medication compliance and that necessary adjustments can be made.
2. We recommended recruiting this man’s existing support system to help support his functioning in daily life. Importantly, his cognitive deficits and neuropsychiatric symptoms were framed in the context of a medical or physical illness to help reduce risks of stigma associated with these problems.
3. Although this patient may have been inclined to withdraw from social situations due to his cognitive problems, we advised him and his family to make opportunities for him to engage with others in a meaningful way to promote higher levels of cognitive engagement and better mood.
4. We offered his wife counseling caregiver support either with the examiner or, if she preferred, another Russian-speaking psychologist at our practice.
5. We advised the patient to identify a trusted advisor or confidant for making financial decisions. We also attempted to facilitate conversations around advanced care planning, power of attorney, and healthcare proxy.

Section III: Lessons Learned

- The health status of patients must be taken into consideration and careful review of medical records is strongly encouraged, including any available neurological and metabolic panels.
- Educational milestones, occupational history in their native country and the country of resettlement, and the degree of bilingual experiences should be considered, as they may impact cognitive performance.
- Mechanisms of translation should also be carefully examined before using adapted measures. Sociocultural factors, the linguistic and cultural gaps relative to the sample population of the test standardization must be considered.
- Although normative data for this population is limited, there is clinical value in obtaining neuropsychological performance at multiple timepoints for purposes of intra-individual comparisons.
- Like many cultures outside the United States, speed when completing tasks or standardized tests is not emphasized in Russian education in the manner it is within the United States. Therefore, slow completion times on timed measures may reflect artifacts of this cultural difference rather than a true cognitive deficit.
- Signed consent to allow communication with the patient’s treating providers (i.e., primary care, neurologist, psychiatrist) is encouraged to share diagnostic impressions and treatment recommendations, as patients and their families may be reticent to do so spontaneously, as was the case with this gentleman.
- Although this was not a pre-surgical evaluation, we feel it is important to emphasize that Russian-speaking patients referred for pre-surgical workups may need more assistance from trusted family members, which may be encouraged/emphasized at the time of the feedback.

Glossary

Soviet Union/Union of Soviet Socialist Republics (USSR). A former socialist state lasting from 1922 to 1991 comprising multiple European and Asian republics who came together to topple the provisional government which had taken control following the fall of the Russian Monarchy.
References

46. Randolph C. Repeatable Battery for the Assessment of Neuropsychological Status (RBANS). Psychological Corporation San Antonio (TX); 1998.