Cognitive deficits among older adults with schizophrenia

Seol Ju Moon[1], MSN, RN, Kyeongra Yang[2], PhD, MPH, Heeyoung Lee[1], PhD, PMHNP-BC

[1] School of Nursing, University of Pittsburgh, [2] School of Nursing, Rutgers, The State University of New Jersey

Background

- Schizophrenia is a burdening mental illness affecting more than 21 million people worldwide, and over 3 million in the United States.
- As one of the core symptoms, cognitive impairments in schizophrenia limits occupational, social, and economic functioning, which typically begin in late teens or early adulthood—before behavioral symptoms are developed and observed throughout the lifespan.
- Less than 50% of people with schizophrenia receive appropriate care and cognitive impairment further impedes treatment recovery. Antipsychotic medications are used as treatments but are often found to be ineffective.
- Prior studies addressing the improvement of cognitive impairments have targeted the effect of premorbid cognitive functioning on functional outcomes early in life.
- Understanding cognitive functioning in older adults with schizophrenia is crucial to develop tailored interventions and improve functional outcomes.

Purpose

- To explore the cognitive profiles of older adults with schizophrenia and/or schizoaffective disorders.

Method

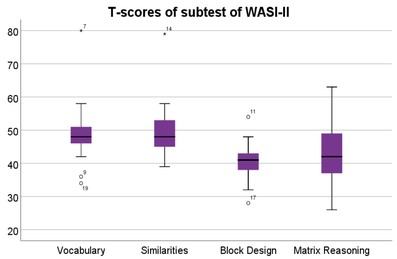
- 21 older adults with schizophrenia and/or schizoaffective disorders drawn from a RCT study examining the effect of aerobic activity on cognitive functioning. Data collection was from 2016 to present.
  - Inclusion Criteria: 1) age ≥50, 2) DSM-V diagnosis of schizophrenia or schizoaffective disorder, 3) IQ ≥70, 4) reading competency above 6th grade level, 5) MoCA score >=24; and 6) medical clearance by primary care provider
  - Exclusion Criteria: 1) dementia, 2) cardiovascular event, 3)psychiatric hospitalization, 4) history of seizure or head trauma, and 5) diagnosis of alcohol/substance abuse or dependence
- Measures:
  - Montreal Cognitive Assessment (MoCA) was used and total score was used.
  - Wechsler Abbreviated Scale-II of Intelligence (WASI-II) was used to measure intellectual ability and its subdomains

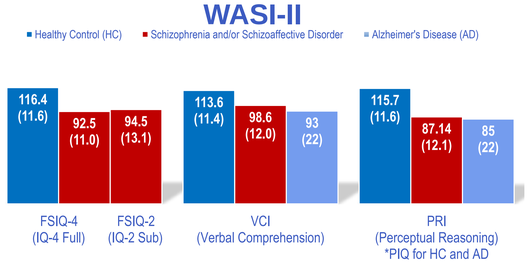
Method (Cont'd)

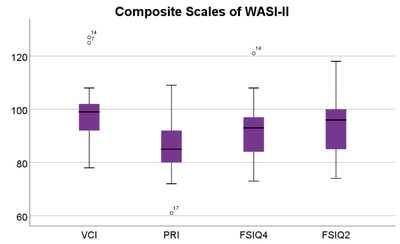
- WASI-II subtests includes vocabulary, block design, matrix reasoning performance, and similarities.
- WASI-II composite scales include Verbal comprehension index (VCI), perceptual reasoning index (PRI), Full-scale IQ-2 subtest (FSIQ-2), and full-scale IQ-4 subtest (FSIQ-4).
- Scales of subtest were converted to T scores. Then, they were converted to composite scores of VCI, PRI, FSIQ-4 and FSIQ-2.
- All data analyses were performed using SPSS version 25.

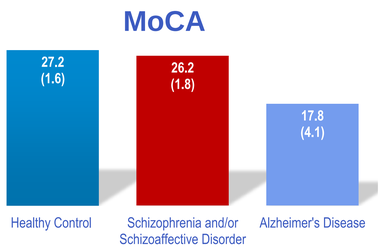
Results

- Among the 21 older adults with schizophrenia, 7 (33.3%) were male, and 14 (66.7%) were female.
- The average age of the participants was 60 years (SD=7.5), ranging from 50 to 79 years. High school or GED completion rate was 57.1%.
- The average FSIQ-4 was 92.52 (SD=11.04) and FSIQ-2 was 94.52 (SD=13.11), which indicates average to low-average IQ.
- The PRI and VCI were 87.14 (SD=12.11) and 98.62 (SD=12.01), respectively. The mean MoCA score was 26.19 (SD=1.75). Eight (38.1%) of the older adults scored below the cutoff for cognitive impairment (MoCA < 26).









Results (Cont'd)

- 30% of participants exhibited VCI scores are greater than PRI scores, which is statistically significant ($p<.05$).
- The relationship between the MoCA score and current IQ (FSIQ4) was not statistically significant ($r = 0.105$, $p = 0.678$). Moreover, the MoCA and IQ scores did not differ with statistical significance in respect to gender, education, and age.

Discussion

- The full WASI-II score of 92.52(11.04) was in the lower end of the average range (90-110), indicating a relative higher cognitive functioning compared to previous findings in patients with schizophrenia (mean= 81.76±18.56 ~ 91.39±13.77).
- Compared to other studies with similar mean age, participants in this study showed a lower average MoCA score than healthy controls (27.24±1.55), but higher than individuals with young people with schizophrenia (22.75±3.21)* and Alzheimer's Disease (17.80±4.13).
- Participants generally displayed lower scores of WASI-II than healthy controls, but scored higher in VCI (98.62±12.01) and PRI (87.14 ±12.11) than individuals with Alzheimer's Disease (93±22 and 85±18, respectively).
- The difference between WASI-II PRI and VCI scores suggest that the nonverbal deficit was greater than the verbal deficit among the participants.
- The low mean scores of PRI presents difficulties in perceptual reasoning among the participants. This can be explained by dysfunctions in basic perceptual process causing symptoms such as delusions, disorganized thinking, and inability to reason with rules.

Conclusion

- The results warrant further investigation of clinically appropriate cognitive measures.
- Nurse researchers can and should, develop interventions tailored to the cognitive functioning of specific individuals with schizophrenia and/or schizoaffective disorders—particularly older adults—to help them better manage their illness and recovery.
- In light of the global burden of a growing, aging population, nurses and other clinicians should screen the progression of cognitive impairment among older adults with schizophrenia.

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