

The relationship between negative symptoms and cognitive functioning in patients with an at-risk mental state for psychosis

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Background

Negative symptoms and cognitive impairments are both present in patients with an at-risk mental state (ARMS) for psychosis and negatively affect functioning and outcome.^(1,2) According to previous studies in patients with first-episode psychosis, negative symptoms are negatively associated with cognitive functioning, while positive symptoms do not seem to be associated.⁽³⁾ Yet, little is known about the specific relationship between negative symptoms and cognitive functioning in ARMS patients.

Therefore, the aim of this study was to evaluate the relationship between negative symptoms and cognitive functioning in ARMS patients.

Methods

The data analyzed in this study were collected within the prospective *Früherkennung von Psychosen (FePsy)* study,⁽⁴⁾ which aims to improve the early detection of psychosis. Study participants were recruited for the FePsy study from April 2000 to August 2015. Data of 154 ARMS patients who met the requested inclusion criteria were analyzed.

ARMS status was assessed using the Basel Screening Instrument for Psychosis (BSIP).⁽⁵⁾ Negative symptoms were assessed with the SANS, positive psychotic symptoms with the BPRS, cognitive functioning with an extensive neuropsychological test battery.

We conducted multiple linear regressions to evaluate the association between negative symptoms and cognitive functioning. Negative symptoms served as dependent variables, cognitive measures as independent variables. In all analyses, age and gender were included as covariates.

Table 1
Sociodemographic and clinical characteristics of included ARMS patients.

	ARMS total group (n = 154)	
	N(%)	M(SD)
Women	50 (32.5)	
Men	104 (67.5)	
Age		25.94 (7.38)
Years of education		11.62 (2.88)
Antipsychotics currently	11 (7.1)	
Risperidone	4 (2.6)	
Quetiapine	1 (0.6)	
Olanzapine	6 (3.9)	
Antidepressants currently	51 (33.1)	
Anxiolytics currently	27 (17.5)	
SANS Total score		21.44 (17.62)
BPRS Psychosis		6.17 (2.59)

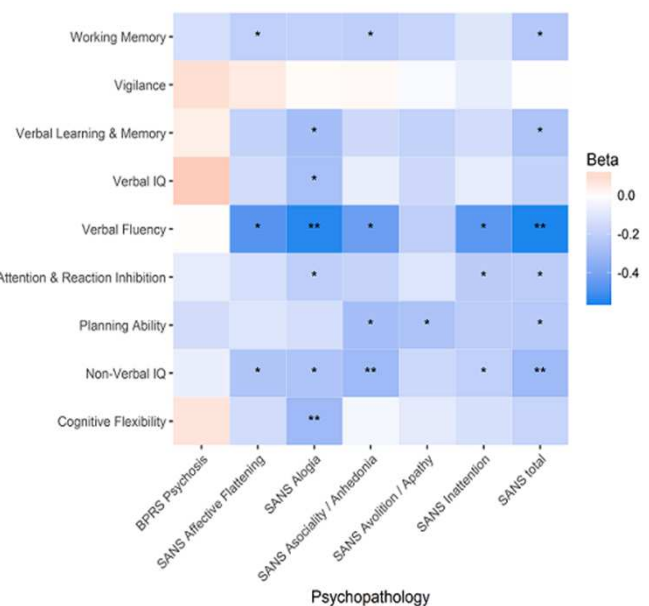
Note. SANS: Scale for the Assessment of Negative Symptoms; BPRS: Brief Psychiatric Rating Scale; ARMS = At-risk mental state. Antipsychotics currently: < a total chlorpromazine equivalent of 250mg.

Results

The final sample consisted of 154 ARMS patients, all between 18 and 56 years of age (see Table 1).

Regression analyses showed a significant, negative association between negative symptoms and cognitive functioning, showing the strongest association with verbal fluency (SANS Total score; $\beta = -.53$, $p = .007$). Positive psychotic symptoms were not significantly associated with cognition. However, results mainly did not withstand correction for multiple testing (see Figure 1).

Figure 1. Association of psychopathological symptoms and cognitive variables.



Conclusion

Our results are in line with previous studies performed in FEP patients and suggest that negative symptoms are negatively associated with cognitive functioning in ARMS patients. We found a strong association between verbal fluency and negative symptoms, which could be explained by an overlap between those two constructs. Furthermore, verbal fluency might have a strong influence on the clinical impression of negative symptoms, especially on alogia.

This study is based on cross-sectional data only, and the presented results are not corrected for multiple testing.

Further longitudinal studies have to be conducted to clarify the predictive relationship between negative symptoms and cognitive functioning in ARMS patients.

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Disclosure Information

All authors declare not to have any conflicts of interest that might be interpreted as influencing the content of the manuscript.