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DEATH RATES AND NEUROCOGNITIVE FUNCTION IN PEOPLE WITH SCHIZOPHRENIA SPECTRUM ILLNESSES

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ABSTRACT:

Background: Sedentary behavior and a relative lack of physical activity in SSD patients may be one explanation for greater incidences of somatic sickness. In the past, we discovered that lower levels of physical and social engagement in SSD were predictive of a shortened life expectancy 18 years following study admission. Additionally, in the patient group with severe neurocognitive abnormalities, there was a stronger correlation between activity level and life expectancy.

Material and Methods: This study was conducted in the dept. of Psychiatry. Briefly, men and women suffering from SSD were recruited from the outpatient clinics in the Hospital region. Two thirds of all eligible patients on this geographic catchment area were included at baseline. The participants were required to be in a stable clinical condition. Exclusion criteria were age below 18, mental retardation precluding the ability to give informed consent, past or present neurological illness, and significant past or present use of alcohol or illegal substances. Each participant gave their written informed consent to participation.

Result: The deceased group had much more severe neurocognitive deficits across nearly all domains, according to the results, when compared to the living group. There were no variations in the groups' function levels, sex, remission status, or psychosis symptoms. The best indicators of survival status were executive function and short-term verbal memory.

Conclusion: According to our research, cognitive dysfunction in SSD patients has a serious impact on somatic morbidity and death. Caretakers need to be aware of the additional load cognitively impaired individuals carry in terms of heightened susceptibility to illness. These patients should receive regular standardized somatic tests as part of mental health check-ups, and the physicians should be especially aware of communication issues in these patients.

Keywords: Death Rates, Neurocognitive Function, Schizophrenia Spectrum Illnesses

INTRODUCTION:

The life expectancy of people with schizophrenia spectrum disorders (SSD) is much lower than that of healthy people, and death might occur up to 20 years early. The obvious causes of a shorter life expectancy are suicide and co-occurring substance misuse, as well as the adverse effects of antipsychotic medication. Cancer and cardiovascular disease, which are the major causes of death in the general population, are more common in the SSD population.[1]

Sedentary behavior and a relative lack of physical activity in SSD patients may be one explanation for greater incidences of somatic sickness. In the past, we discovered that lower levels of physical and social engagement in SSD were predictive of a shortened life expectancy 18 years following study admission. Additionally, in the patient group with severe neurocognitive abnormalities, there was a stronger correlation between activity level and life expectancy.[2] The results of a 15-year

prospective follow-up study that found verbal memory and executive function as two particularly potent predictors of survival status were repeated by these studies. Psychosis symptom intensity, gender, age at illness onset, or sub-diagnosis within the psychosis spectrum did not stand out as significant explanatory factors for mortality in either of these trials.[3]

A characteristic of schizophrenia spectrum disorders (SSD), neurocognitive impairment is already apparent in both prodromal and adult patients. Even after classic psychosis symptoms like hallucinations and delusions have subsided, the degree of impairment appears to be reasonably consistent throughout time and has a tendency to linger. Neurocognitive deficiencies should be recognized as early as feasible to alert the clinical community to patients in need of vigilant monitoring of general health, given that they may affect somatic sickness and death.[4,5] However, the majority of SSD mortality studies are retrospective and based on data from the medical files of patients who have passed away. By conducting annual patient assessments over a 20-year period as part of the prospective Clinical Long-term Investigation of Psychosis in Sweden (CLIPS) project, we are able to conduct more thorough studies with stricter methodology, identifying mental and somatic predictors of illness progression and treatment outcome. With a larger sample size and more stringent controls for potential age-related cognitive confounders, we hope to expand on our earlier reports of neurocognitive predictors of mortality in SSD patients in the current study.[6,7]

MATERIAL AND METHODS

This study was conducted in the dept. of Psychiatry. Briefly, men and women suffering from SSD were recruited from the outpatient clinics in the Hospital region. Two thirds of all eligible patients on this geographic catchment area were included at baseline. The participants were required to be in a stable clinical condition. Exclusion criteria were age below 18, mental retardation precluding the ability to give informed consent, past or present neurological illness, and significant past or present use of alcohol or illegal substances. Each participant gave their written informed consent to participation.

Participants

150 people made up the patient group, 127 of whom were still alive and 23 of whom had passed away. For both groups, the top age restriction was set at 65 in order to avoid skewed results from age-related cognitive impairments. In the group of those who are still alive, the lower age restriction was 27 years because that was the lowest baseline age of a patient who later passed away. In the deceased group, sub-diagnoses included delusional disorder (10.8%), schizoaffective disorder (23.5%), and schizophrenia (65.7%). Schizophrenia was sub diagnosed in 67.4% of the living, along with schizoaffective disorder (25.6%) and delusional disorder (7.4%). The majority spoke Swedish as their first language, and three of the participants who are still living needed an interpreter to help them throughout the assessments. The majority of the individuals received treatment with second-generation antipsychotics either by themselves or in conjunction with first-generation psychotic drugs.

Statistics

All statistical analyses were performed with IBM SPSS version 26. Non-parametric group comparisons were chosen due to large differences in sample size. Identification of the cognitive domains that contributed most to survival status was done with forward conditional stepwise logistic regression analyses.

RESULTS:

We enlisted out-patients to test their willingness to endure a protracted and mentally taxing assessment process. Additionally, we made an effort to evaluate the participants in a state that was as close to their premorbid state as possible. As a result, the severity of the psychosis symptoms was mild.

Table 1: Neurocognitive Function of the participants

Test	Deceased (n=23)	Living (n=127)
TMT-A (Processing speed)	61.6±29.4	49.6±29.8
TMT-B (Flexibility)	193.6±112.4	132.5±82.8
LNS (Working memory)	7.7±3.1	8.9±2.7
RAVLT 1 (Immediate memory)	3.6±1.5	4.7±1.9
RAVLT-sum 1–5 (Learning)	33.0±10.1	40.3±11.7
RAVLT-7 (Retention memory)	6.1±2.9	7.9±3.5
WCST Categories compl. (Exec. f.)	1.7±1.2	3.1±2.2
WCST Total trials (Ecex. f.)	126.6±7.4	118.2±18.8
WCST Total errors (Exec. f.)	67.4±20	52.4±25.3
CPT-IP Total d'prime (Att./Vig.)	0.4±0.1	0.5±0.3
WAIS Vocabulary (IQ)	33.9±12.2	39.9±11.2

Neurocognitive performance was noticeably worse at baseline in the deceased group compared to the living group 20 years later. The Attention/Vigilance domain score was the lone exception, since there was no statistically significant group difference.

DISCUSSION:

We repeated earlier findings from the same project utilizing larger samples and age control in this study evaluating the connection between neurocognitive function at baseline and survival status in SSD patients 20 years later. When compared to people who were still alive 20 years later, those who were deceased had considerably worse neurocognitive function at baseline. With the exception of Attention/Vigilance, this was true for all cognitive domains. Additionally, executive function and immediate verbal memory both played a substantial role in predicting survival status, with the total level of explained variance in mortality reaching 17%. Importantly, sex, remission status, psychotic symptoms, or function level were not linked to survival status.[8]

We lack a strong empirical foundation for our explanation of the association between neurocognitive function and mortality, which is a weakness shared by numerous studies in this field. We offer a number of possibilities that are not mutually exclusive based on circumstantial evidence. First, there is some data suggesting a connection between low cardiorespiratory fitness and low neurocognitive performance in SSD patients, which may be a result of a neurodevelopmental abnormality in individuals who later show with psychosis. Second, SSD patients with poor cognitive function have low levels of social and physical activity, as we have previously documented.[9] The conclusion is that people with impaired cognitive function may not understand the benefits of exercise or may not have the practical knowledge required to make lifestyle adjustments. Additionally, cognitive impairments may make it impossible to succeed in school or the workplace, leading to isolation and loneliness—two well-known risk factors for dying sooner.[4] Third, because SSD patients consistently underuse general healthcare facilities, symptoms of life-threatening disorders might not be identified to the same extent as in healthy individuals. Although SSD patients frequently interact with mental health facilities, their somatic health is frequently neglected by clinicians during routine check-ups. It may be particularly challenging for SSD patients with cognitive impairment to express concerns about somatic symptoms unless a medical professional specifically asks them.[10] The most frequent causes of excess mortality in SSD patients are cardiovascular disease, cancer, and diabetes, which are also common causes of death in the general population, but which appear to be detected earlier and have a better prognosis in the latter group, making this explanation compelling.[11]

CONCLUSION:

According to our research, cognitive dysfunction in SSD patients has a serious impact

on somatic morbidity and death. Caretakers need to be aware of the additional load cognitively impaired individuals carry in terms of heightened susceptibility to illness. These patients should receive regular standardized somatic tests as part of mental health check-ups, and the physicians should be especially aware of communication issues in these patients. Finding accurate and trustworthy self-assessed health information from patients with severe mental illness might be challenging for some practitioners. In a study from the CLIPS project, it was examined how well patients could rate their own functional performance in relation to their neurocognitive and practical performance. The findings revealed that 37% of patients overestimate their functional ability, and they also suggested that doctors may have more trouble evaluating patients who do so.

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