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The stability of negative syndrome, persistent negative syndrome and deficit syndrome in a twenty-year follow-up study of schizophrenia patients ☆

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ABSTRACT

Aims: To assess the prevalence and stability of negative symptoms in schizophrenia according to the BPRS-withdrawal/retardation, persistent negative symptoms and deficit syndrome over twenty years. Method: Fifty people diagnosed with schizophrenia were evaluated during their first psychiatric hospitalisation and after three, seven, twelve and twenty years. the presence of negative symptoms was assumed when at least one of the BPRS-withdrawal/retardation symptoms (blunted affect, emotional withdrawal, motor retardation), equalled three or more points at the discharge from the index hospitalisation. The groups with persistent negative symptoms and deficit syndrome were identified based on two measurements taken at the index discharge and one year later. The Proxy for the Deficit Syndrome (PDS) was employed to identify deficit syndrome. Results: The prevalence of BPRS-withdrawal/retardation, persistent negative symptoms and deficit syndrome after one year was 20%, 4% and 6% respectively. Four of the ten people with BPRS-withdrawal/retardation symptoms maintained them at all follow-ups. No symptoms, however, were found in any of the members of the persistent negative symptoms and deficit syndrome group after twelve and twenty years. Conclusions: The prevalence of primary, persistent negative symptoms after the first episode of psychosis was minimal. A long-term observation does not confirm their stability.

1. Introduction

Deficit syndrome is understood as a distinct form of schizophrenia with a particular psychopathological picture, course and aetiology, and with a different response to pharmacological treatment. According to Carpenter's definition (Carpenter et al. 1988), the negative symptoms occurring in this form of schizophrenia are primary and constitute an enduring characteristic (Buchanan 2007; Carpenter et al., 1993; Cohen et al. 2007; Fenton and McGlashan, 1994; Galderisi and Maj 2009; Kirkpatrick et al. 2001; Kirkpatrick and Galderisi, 2008;). The SDS (Schedule for the Deficit Syndrome), which was devised for the purpose, is the scale most often used in research to evaluate deficit syndrome. However, in studies based on clinical data collected using scales such as the BPRS, or Positive and Negative Syndrome Scale (PANSS), the Proxy for the Deficit Syndrome (PDS) method is used. In their meta-analysis, however, Cohen and his team (Cohen and Minor, 2010) stated the need for caution in the interpretation of results obtained in this way, because the differences in negative symptoms between PDS-assessed deficit and non-deficit schizophrenia, are small. The results obtained using the SDS scale and PDS reveal statistically significant differences.

The prevalence of deficit syndrome identified using BPRS or PANSS varies in different studies from 2% to 34%, while the results for the stability of deficit schizophrenia assessed in this way are inconsistent and oscillate between 40% and 78% (Table 1).

Persistent negative symptoms share two features with deficit symptoms: they occur persistently, including in periods of clinical stability, and they do not respond to any known treatment method. They involve both primary and secondary negative symptoms, which both exhibit these two features. Because it is difficult to isolate deficit symptoms at the early stage of illness, because clinicians have more experience with scales other than SDS for assessing schizophrenia and because many clinical studies are too short, the ability to isolate persistent negative symptoms would be a clinically useful construct.

The definition of persistent negative symptoms given by

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Table 1
Studies of deficit syndrome using the Proxy for the Deficit Syndrome (PDS) method.

Location (research team, year of publication)	Duration of the study	Tools employed	Method	Deficit syndrome stability	Deficit syndrome prevalence
Chicago (Strauss et al., 2010)	20 years	BPRS	PDS[a]	67%	
Chestnut lodge (Fenton et al., 1994)	19 years	BPRS		78%	
Suffolk (Kirkpatrick et al., 1996)	2 years	BPRS, SDS	PDS[b]		34%
California (Subotnik et al., 1998)	1 year	BPRS	PDS[b]	40%	
Istanbul (Üçok and Ergül, 2014)	2 years	SANS	PDS[b]		>2% after 1 year
Pennsylvania (Beck et al., 2011)	One assessment	BPRS	PDS[b]		16%
Canada (Hovington et al., 2012)	1 year	PANSS	PDS[b]		3%

[a] Only people with the highest results were included in the deficit syndrome group (20–30%); the group without deficit syndrome contained 30–50% of the people with the lowest results; the rest were excluded from the study.
[b] Those whose result after subtracting their sum of points for hostility, guilt, anxiety and depressive mood from their points for blunted affect was 2 or above were categorized into the group with deficit syndrome.

Buchanan (2007) covers a number of points. First, negative symptoms of at least moderate severity must be present. Second, significant positive and depressive symptoms, or extrapyramidal symptoms as a side effect of pharmacotherapy, cannot be present in the clinical picture. Third, the negative symptoms should remain stable for an extended period of time (six months).

Studies have applied a variety of scales and exclusion criteria in the evaluation of persistent negative symptoms, and the required severity of negative symptoms has been defined in different ways (Table 2).

1.1. Research aims

Five measurement points were employed to evaluate stability: index hospitalisation, and after one, seven, twelve and twenty years. Three research aims were adopted:

1. To assess the prevalence and stability of negative symptoms according to the BPRS-withdrawal/retardation over the course of twenty years of illness.
2. To assess the prevalence and stability of persistent negative symptoms over the course of twenty years of illness.
3. To assess the prevalence and stability of deficit symptoms over the course of twenty years of illness.

2. Method

2.1. The study group

A group of 80 people hospitalised for the first time at the Psychiatric Clinic in Kraków, who were diagnosed with schizophrenia according to DSM III and re-diagnosed after 12 years according to DSM IV, was selected for the Kraków study of the course of schizophrenia. Between 96% (after one year) and 80% (after twenty years) of the study group participated in the follow-up studies conducted one, three, seven, twelve and twenty years after the end of the first hospitalisation. The assessment of the stability of negative and deficit symptoms involved a group of 50 people (63%), who took part in all of the follow-up studies. As concerns the excluded patients, eight of them died within the study period, with another two the contact was lost, 20 people did not participate in all follow-ups. At the beginning of the study (index hospitalisation) this group did not differ significantly from the sample presented in the paper regarding socio-demographic and clinical factors. The average age of the patients in the study group at first hospitalisation was 27 and their average duration of untreated psychosis was 45.7 weeks. 60% were women, 36% were married, 62% were in permanent employment and 30% had relatives who suffered from schizophrenia. The mean time of the hospitalisation throughout the first year of illness in the whole group equalled 16.8 weeks (sd=6.5). The means for the BPRS-withdrawal/retardation, persistent negative symptoms and deficit syndrome subgroups equalled 18.1, 15.0 and 17.3 weeks, respectively. For any of them, there were no statistically significant differences in the length of time spent in hospital when compared with subjects without present symptoms. The people in the group with present BPRS-withdrawal/retardation symptoms were taking higher doses of neuroleptics than those without only at the time of the one-year follow-up. No other differences in dosages were found. These comparative data need, however, to be viewed with caution, as the sizes of the subgroups are really small and that prohibits reliable comparisons.

All participants gave their informed consent prior to each of the assessments and were assessed individually. The study has been approved by the Bioethical Committee of the Collegium Medicum, Jagiellonian University, Cracow.

2.2. Tools and methods

The BPRS-LA scale was employed at the successive evaluation points. Negative symptoms (NS) were identified using the BPRS-withdrawal/retardation subscale, which covers three negative symptoms: blunted affect, emotional withdrawal and motor

Table 2
Studies of persistent negative symptoms.

Location (research team, year of publication)	Duration of the study	Tools employed	Persistent negative symptoms stability	Persistent negative symptoms prevalence
EUFEST study group (Galderisi et al. 2013)	1 year	PANSS	20%	6.7%
Hong Kong (Chang et al., 2011)	3 years	High Royds Evaluation Of Negativity Scale	69% between first and second year	25%
Canada (Hovington et al., 2012)	6 months	SANS		13.2–27% depending on persistent negative symptoms definition
Istanbul (Üçok and Ergül, 2014)	3 years	SANS	78% between first and second year	