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The importance of cross-sectional remission in schizophrenia for long-term outcome: A clinical prospective study ☆

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ABSTRACT

Introduction: This study examines the relationship between having achieved cross-sectional remission and the need for future psychiatric and nursing home care. The study is a prospective long-term follow-up of patients with schizophrenia.

Materials and methods: Cross-sectional remission was defined by applying the Positive and Negative Syndrome Scale (PANSS) criteria requiring that none of the eight core positive and negative symptom items are scored greater than mild. Patients are followed-up by yearly clinical examinations and medical record review. Information on consumption of healthcare resources and residency status were also gathered. Visits to mental health professionals, number and duration of inpatient psychiatric or nursing home admissions were also recorded. The patients are enrolled in a 12 year prospective study, the Clinical Long-term Investigation of Psychosis in Sweden (the CLIPS study). This report covers the first seven years.

Results: Those patients who achieved cross-sectional remission at baseline had a lower total consumption of healthcare services than those who were not in remission. The latter group displayed higher values for all measured variables.

Discussion: Our results show that cross-sectional remission is likely to be an important goal to achieve in order to reduce future treatment needs. Patients in remission live a more independent life and have better preconditions for functioning in society.

1. Introduction

Although antipsychotic drugs have been available for over 50 years, clinician goals for treatment are varied. Liberman et al. (2002a) proposed criteria for recovery in 2002, but these have not been widely implemented. Recently an attempt was made to define remission of schizophrenia based on the control of symptoms over a continuous extended time period. Two expert groups, one in the USA and one in Europe, worked towards a consensus which was published in 2005 and 2006 (Andreasen et al., 2005; van Os et al., 2006a). Earlier studies have investigated the relationship between cognitive ability and remission (Helldin et al., 2006), as well as the significance of remission for the individual's functional outcome (Helldin et al., 2007) and wellbeing (Lambert et al., 2006). van Os et al. (2006b) also reported that changes in healthcare organisation in the Netherlands has led to a higher likelihood of remission, demonstrating that the concept is also sensitive to changes in treatment practices over time. The remission criteria are based on eight items from PANSS, representing core symptoms in schizophrenia, and require that none of these items are rated greater than mild in severity. The cut-off limit was set at mild following expert consideration and allows the patient to have some symptoms, but not of such severity to impact day-to-day functioning. The full remission criteria require maintaining this threshold of symptom severity

☆ This study has been approved by the Ethical Research Committee at the University of Gothenburg, Sweden.

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continuously for six months. Some confusion has arisen surrounding the concept of remission as many studies reported are based only on cross-sectional severity. An expert meeting in Paris in December 2006 established that in cases where only symptom control is taken into account, this should be defined as 'cross-sectional remission' and that 'remission' should be reserved for studies that fulfil the criteria on both symptom control and duration.

Follow-up studies have shown that patients with greater cognitive ability have a higher likelihood of achieving remission (Kopelowicz et al., 2005; Helldin et al., 2006). Patients who were in remission had a higher functional level in general, were functioning better in society (Helldin et al., 2007), their quality of life was higher and their illness burden milder (Helldin et al., 2008). To date, most studies have been based solely on symptom control and relatively brief, if any, follow up. There are very few long-term studies. One challenge in conducting long-term studies is the problem of ensuring that the patients have remained in remission continuously between different time points of assessment. The PANSS-scale assessment is based on symptoms present during the preceding week. Ideally, in order to be certain that the patient does not deviate from cross-sectional remission would require 26 weekly follow-up examinations every year. This is of course is unlikely in routine clinical practice. Instead the evaluation has to rely on reports from the patients themselves, relatives and caregivers, in combination with information from the medical records about requirements for changes in medication, symptom exacerbation, relapse or hospitalisation.

The current report is based on long-term outcome data for a group of patients who have been followed since the year 2000. Our goal was to determine if patients who were examined during a non-acute period of their illness (representative of their highest level of symptom control and performance) and found to be in cross-sectional remission, would have a better long-term prognosis in terms of needing less care, i.e. number of visits to a mental health professional, number and duration of hospitalizations or admission to a nursing home, compared to patients not in cross-sectional remission. The hypothesis was that patients, who achieved cross-sectional remission, would have better outcome in terms of care needs.

2. Materials and methods

2.1. Participants

The original purpose of the Clinical Long-term Investigation of Psychosis in Sweden (the CLIPS study) was to look at patients' function and adaptation to society. One of the objects was to investigate their cognitive ability. To be included in the study, patients had to be identified to be in a phase of their illness, where they should have been free from a relapse for at least the last six months. Otherwise it was expected that their cognitive ability could be impaired and not representative for their best performance. In fact, patients therefore were more likely to be free from a psychotic episode closer to one year rather than six months. One research-nurse identified which patients were relevant to include in the study by interviewing their case-managers and investigating medical records at the different outpatient settings. Of the about 800 available patients, 550 were identified to match the criteria and were then invited to participate in the study. 300 patients accepted and were then tested. When their diagnoses had been controlled for with the DSM-IV decision-trees, 269 patients were found to be diagnosed with schizophrenia, schizoaffective disorder or delusional disorder. Also co-morbidity such as mental retardation, autistic disorder or dementia was checked for, excluding patients with double diagnoses. 242 patients (140 male and 102 female) were then remaining and completed all the instruments that were administrated in the study between 2000 and 2004.

Of these patients, 30 individuals were diagnosed with delusional disorder, 10 with disorganized schizophrenia, 1 with catatonic schizophrenia, 79 with paranoid schizophrenia, 14 with residual schizophrenia, 50 with schizoaffective disorder and the remaining 58 individuals with undifferentiated schizophrenia. Of all patients included only 6 intermittently used narcotic substances (4 in remission and 2 in non-remission). 93 patients met the criteria for cross-sectional remission while 149 did not. The patients in the study have then been followed up with annual assessments since 2005. Their consumption of healthcare and nursing home services has been recorded from their first day of assessment until 15 May 2008. Of the original group, 191 patients remained available for analysis in 2008. 21 patients had died, 7 of them were in remission (7.5% of the total number of patients in remission) while 14 were not (9.3% of the total number of patients not in remission). Data on the other patients was missing either because the patients had moved from the area or either because they had decided that they no longer wanted to participate in the study. There was no difference between those in remission and those not in terms of subsequent study refusal. In the remaining sample 72 were female and 119 were male. Fisher's Exact Test found no differences regarding gender between the remission and the non-remission groups, $p = 0.21$. The mean age at baseline for patients in remission was 46.9 years (standard deviation 11.6) and 47.6 years for the patients not in remission (standard deviation 12.6). Independent Samples *T*-test was not significant, $p = 0.70$.

The observation time for patients who were in remission was 67.2 months (standard deviation 13.4) and 68.7 months for those who were not in remission (standard deviation 13.5). There were no differences between groups (Pearson Chi-Square Test was not significant, $p = 0.38$).

2.2. Design

The patients have been followed-up since their first study evaluation with respect to contact with psychiatric specialist outpatient care, admission to psychiatric inpatient care and residential care in nursing homes. The number of visits to doctors and other caregivers (mainly nurses) as outpatients was recorded as number of visits, the amount of institutional care consumption as number of inpatient admissions, and the number of care days and days in sheltered care. In order to describe the total consumption of care, each outpatient visit has been re-calculated in hours, with each visit being assumed to have an average duration of 1 h. The number of