Brief Communication

Symptom Outcome 1 Year After Admission to an Early Psychosis Program

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Objective: To determine the change in positive, negative, and depressive symptoms after 1 year in an early psychosis program.

Method: One hundred and eighty subjects were included from the first 257 admissions for a first episode of psychosis to a comprehensive early psychosis program. Most had a diagnosis of schizophrenia or schizophreniform disorder. Subjects were assessed on admission to the program and at 3, 6, and 12 months after admission. All 180 subjects completed the 1-year assessment. Assessment measures included the Positive and Negative Syndrome Scale and the Calgary Depression Scale for Schizophrenia.

Results: There was a clinically and statistically significant improvement in positive symptoms by 3 months, depression increased at 3 months but significantly improved by 12 months, and negative symptoms changed little over the first year.

Conclusions: The differential changes in symptoms in the first year after admission have implications for treatment.

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Clinical Implications

- Depression should be monitored and treated as positive symptoms resolve.
- Negative symptoms are present from early in the disorder and need to be addressed.
- Maintenance antipsychotics are indicated despite the relatively good positive symptom response.

Limitations

- There was 70% follow-up at 1 year.
- This was a naturalistic study, so treatment was not controlled.
- Group outcomes conceal significant interindividual differences.

Key Words: *first episode, psychosis, positive and negative symptoms, depression*

Several studies have been conducted to define the course and outcome of those individuals experiencing their first episode of psychosis. Studies varied in terms of the symptoms assessed, the length of time of the follow-up, and the inpatient status of the patients. Some studies examined the time to recovery. For example, Tohen and others (1) demonstrated that, after 3 months, 50% of hospitalized first-episode subjects achieved recovery, and by 6 months, 70% had recovered.

Other studies focused more on symptom change. The Iowa group demonstrated that, in a small inpatient sample at time of discharge from hospital, significant symptomatic improvement was observed in 3 dimensions—psychotic symptoms, disorganization, and negative symptoms (2). Improvement was mainly accounted for by positive symptoms. Once discharged there was no significant improvement in the subsequent months up to 1 year. In their first-episode study, Lieberman and others demonstrated 83% were in remission by 1 year (3). The same group reported that 22% had depression at onset and that 15% experienced a post-psychotic depression (4).

In a Canadian first-episode study, significant improvement over 1 year was observed on both positive and negative symptoms (5). In an Australian study with a large first-episode sample, Edwards and others examined negative symptoms and reported that the deficit syndrome seemed to be a "moving target" because the percentage that were considered to be cases because of enduring negative symptoms varied markedly depending on the method used (6).

Thus, in the few studies conducted with first-episode subjects, individuals improve over time, with most positive symptom improvement being seen in the early months and negative symptom improvement being less and taking more time. The purpose of this study was to examine symptomatic improvement in a large Canadian first-episode sample. These individuals were attending a first-episode program available to the whole community, which offers a comprehensive treatment approach and which most likely includes most potential incidence cases.

Method

Subjects

At the time of the study, 257 subjects had been in the program for at least 1 year. The sample for this study is 180 (126 men, 54 women) first-episode patients who had been admitted to the Calgary Early Psychosis Program (EPP), which serves an urban population of 930 000 (7). These 180 subjects were the subjects who had completed the 1-year follow-up assessments. These individuals were experiencing their first episode of psychosis and had not received more than 3 months of previous adequate treatment (8). Subjects were excluded from this study if they had a history of neurological disorders, head injury, epilepsy, or did not speak English.

Reasons for not completing the assessment included the above exclusion criteria, dropping out of the program, moving away, no-show for the assessment, or a change to an affective psychosis diagnosis. There were no significant differences at baseline in positive symptoms, negative symptoms, or depression between those who completed the 1-year assessment (n = 180) and those who did not (n = 77).

Most subjects in the sample were single (88%), with a mean age of 24.5 years (SD 8.3), had completed grade 12, lived at home, and were white. The percentages on medication ranged from 69% at the initial assessment to between 86% and 90% at the later assessments. At least 95% were on novel antipsychotics at each assessment. The mean chlorpromazine equivalent of those on medications ranged from 318.5 mg daily at the initial assessment to 412.3 mg daily at the 12-month assessment (9).

Subjects were diagnosed according to the DSM-IV criteria, using the Structured Clinical Interview for DSM-IV (SCID-I; 10). Diagnoses were conducted at the initial assessment and confirmed at the 1-year assessment. At the 1-year assessment, 74% had a diagnosis of schizophrenia, 14% had schizophreniform disorder, 2% had schizoaffective disorder, 2% had delusional disorder, and 8% had a psychotic disorder not otherwise specified.

Measures

The Positive and Negative Syndrome Scale (PANSS; 11) was used to obtain ratings for positive and negative symptoms. Depression was assessed with the Calgary Depression Rating Scale for Schizophrenia (CDSS; 12).

Procedures

Formal consent was obtained from all subjects. All raters for the SCID, the PANSS, and the CDSS were experienced research clinicians who used these measures in other research projects and demonstrated adequate reliability at regular intervals. Subjects were assessed on admission to the program. Follow-up assessments occurred after 3 months, 6 months, and 12 months.

Results

Repeated-measures analyses were used to determine the change in symptom scores over time. Post hoc tests (Tukey) were used to determine significant differences between different time periods. There were significant changes in positive symptoms and depression over the 12-month period. The effect sizes were large. Although there was significant improvement up to 6 months, the major change in positive symptoms occurred between the initial assessment and 3 months. The changes in negative symptoms over time were significant, but the effect size was small. Depression increased between the initial and 3-month assessments. There was significant improvement at each assessment right up to the 12-month mark. These results are presented in Table 1.

Using t-tests, there were sex differences in depression at 3 months, with women having more depression (mean scores = 6.44, 3.68, $t = 3.72$, $P < 0.001$), and in negative symptoms at 3 months, with women having significantly fewer negative symptoms (mean scores = 16.48, 14.42, $t = 2.09$, $P < 0.05$).

Mean scores on the CDSS were relatively low. Using a cut-off of 7, a level at which the likelihood of the presence of a major depressive episode is 82% (13), the percentages of those with depression at each time period were 21% at the initial assessment, 28% at 3 months, 17% at 6 months, and 14% at 1 year. Patterns of depression were examined using the following course types as described by Birchwood (14):

1. Postpsychotic depression (PPD): either (a) had depression at onset, improved, and then had a return of depression or (b) had no depression at onset but had depression at one or more follow-up points.

2. No postpsychotic depression (non-PPD): either (a) had depression at onset and no depression throughout follow-up period or (b) had no depression at onset or at any follow-up period.

Eighty and 100 subjects met criteria for PPD and non-PPD, respectively. There were no differences in negative symptoms between the groups. The PPD group had significantly more positive symptoms at initial and 3-month assessment, and at 6 and 12 months the difference approached significance.

Finally, considering positive symptoms, we examined the proportion that appeared to be in stable remission at 1 year, the proportion that had continuous psychosis, and the proportion whose remission over the course of the year could be described as unstable.

- Stable remission was defined as no PANSS positive item greater than 3 had occurred at 2 consecutive assessments including 1 year.
- Continuous psychosis was defined as always 1 PANSS positive item greater than 3.
- Unstable remission was defined as psychosis at 1 year but at least 1 period with a remission.

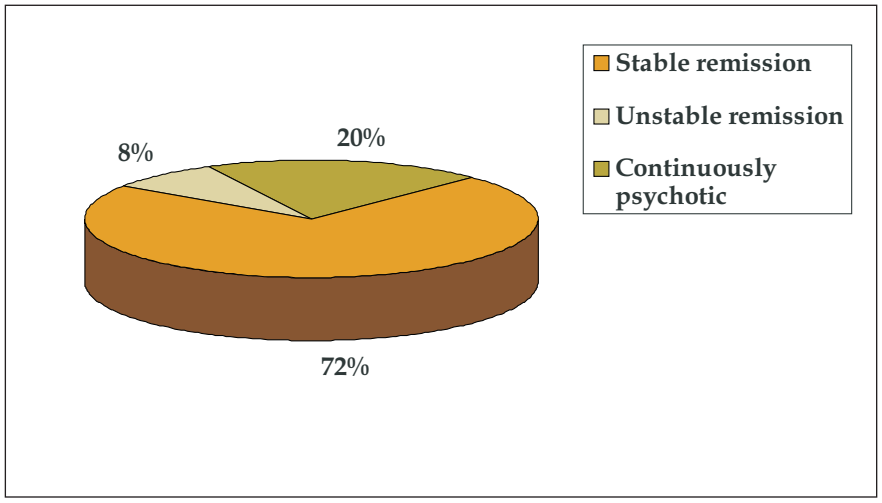
Based on those criteria, percentages are presented in Figure 1.

Table 1 Change in symptoms over 12 months (repeated measures)

Symptoms	Assessment	Mean score (SD)	Wilks lamda	Eta^2
Positive	Initial	16.48 (4.58)	$F = 60.31$, $P < 0.001$	0.55
	3 months	12.21 (4.40)		
	6 months	11.15 (3.53)		
	12 months	11.53 (4.54)		
Negative	Initial	14.79 (6.26)	$F = 3.00$, $P < 0.05$	0.06
	3 months	15.69 (5.81)		
	6 months	14.91 (5.80)		
	12 months	15.84 (6.12)		
Depression	Initial	3.94 (3.83)	$F = 12.87$, $P < 0.001$	0.22
	3 months	4.70 (4.63)		
	6 months	3.44 (3.50)		
	12 months	2.54 (3.39)		

ETA^2 = effect size.

Figure 1 Description of remission at one year



Discussion

Our results are similar to those of other groups in that we saw a relatively rapid improvement in positive symptoms and less of an improvement in negative symptoms. Unlike Malla and others (5), we did not see the same improvement in negative symptoms. However, our negative symptoms were low to moderate.

What is striking is the appearance of negative symptoms early on in the course of the illness, an observation made in other first-episode groups (2). This supports previous suggestions (6,15) that negative symptoms may be well established prior to the point of entry into treatment and may either delay presentations or alternatively become entrenched through the lack of detection and treatment. Early identification of the enduring negative symptom group may also be assisted through examination of negative symptoms during the prodromal period prior to first psychotic symptoms (15).

The time course of depression reported in this study confirms the results of a previous longitudinal study of depression in schizophrenia (16). In the previous study, the first-episode schizophrenia subjects showed a different time course of depression, compared with a multiepisode group.

The limitations of this study are that 30% were not available for follow-up at 1 year and that it is a naturalistic study; thus, treatment is not controlled. However, the strengths include the large sample, the longitudinal design, and the fact that it includes those presenting as both outpatients (72%) and inpatients (28%). Since these individuals were attending a

first-episode program available to the whole community, the sample most likely included most potential incidence cases.

The clinical implications of this study are that, although we see good and at times rapid recovery from positive symptoms, there is not the same recovery from negative symptoms. Furthermore, depression should always be a concern in first-episode patients.

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Résumé : La prise de poids au premier épisode psychotique

Objectif : Examiner la quantité de poids pris dans la première année de traitement d'un programme pour la psychose précoce.

Méthode : Les sujets étaient 114 personnes qui avaient connu un premier épisode psychotique et avaient terminé 1 an d'un programme complet pour un premier épisode. Le poids et l'indice de masse corporelle ont été mesurés à l'entrée dans le programme, puis à 6 et à 12 mois. La majorité des sujets avaient reçu des antipsychotiques de la deuxième génération.

Résultats : Des augmentations significatives du poids moyen ont été observées chez ces jeunes personnes au cours de la première année de traitement.

Conclusions : Si nous voulons viser un traitement optimal pour les sujets du premier épisode, alors il faut que nous abordions la prise de poids éventuelle au début du traitement et que nous la surveillions durant le traitement.