A Follow-Up Study of Patients With DSM-IV Schizophreniform Disorder

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Background: Schizophreniform disorder (SFD) has an unclear diagnostic and prognostic status within the psychotic spectrum.

Method: We studied 36 inpatients admitted to our ward between 1983 and 1993 due to SFD. The patients were contacted an average of 12 years after index hospitalization, and we noted the course of their illness, as well as their present diagnosis.

Results: Of the sample, 84% had additional, mostly psychotic, episodes during the follow-up, and 70% had diagnoses in the schizophrenic spectrum (that is, schizophrenia and schizoaffective disorder). A survival analysis revealed that confusion and the presence of at least 2 good prognostic factors (GPF) at index hospitalization predicted better outcome.

Conclusions: SFD seems to be an early manifestation of schizophrenia. Only a few of those sampled did not experience additional relapses—a pessimistic finding at 12-year follow-up. The findings of this study accord with DSM-IV criteria and the literature regarding the long-term prognosis of SFD and the importance of the GPF.

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Clinical Implications

- Schizophreniform disorder is characterized by a relatively bad prognosis.
- Patients with good prognostic factors (GPF) have better prognoses.
- Prospective studies are needed to confirm the above-mentioned results.

Limitations

- The study design was not prospective, and the assessment was unstructured and not uniform.
- Several biases in patient selection could have affected our results.

Key Words: *schizophreniform disorder, SFD, schizophrenia, prognosis, confusion, good prognostic factors, GPF*

Schizophreniform disorder (SFD) has an unclear diagnostic and prognostic status within the schizophrenic spectrum; a dearth of research and inconsistent results limit the generalizability of the research results so far (1). Some researchers suggest a link with the affective disorders, whereas others maintain that, regarding prognosis, SFD lies between schizophrenia and the affective disorders. The SFD entity has additional inherent problems. Diagnosis based on illness length is problematic because it involves various sociocultural factors. It could be that SFD patients are in fact schizophrenia sufferers with good prognostic factors (GPF) who seek treatment early. Setting the diagnosis before remission (provisional SFD) is also problematic.

Several SFD follow-up studies have been performed: Beiser and others followed 29 patients with SFD and reported that 8 patients recovered completely (true SFD), while 18 patients developed schizophrenia, and 3 were rediagnosed as suffering from bipolar disorder after a 9-month follow-up (2). Opjordsmoen reported similar results, with 56% of patients studied developing schizophrenia, and 27% displaying true SFD (that is, recovered) over several decades of follow-up (3). In a 4-year follow-up of SFD patients (n = 42), Moreno and others reported that 80.9% were rediagnosed during the follow-up as suffering from schizophrenia (4). In a 6-year follow-up study of SFD with good prognosis (n = 20), Benazzi found that 35% of the patients developed a major affective

disorder, 35% had SFD episodes and major affective disorder, 5% had SFD episodes only, 10% developed schizophrenia, and 15% recovered completely (5).

These reports do not address the issue of predicting the SFD course (that is, heredity and GPF). Moreover, evaluating the course and prognostic predictors is hampered by the relative lack of prospective studies that follow up cases of SFD for a period of at least 10 years.

SFD is in fact the only entity in the DSM-IV for which the diagnostic criteria also include prognostic factors. This reflects psychiatrists' efforts to discriminate subgroups of patients with psychotic disorders (especially schizophrenia) who have good vs bad prognoses. The GPF in SFD include quick onset of symptoms (< 4 weeks), confusion during the episode, good premorbid functioning, and lack of blunted or flat affect. These criteria, however, were set without empirical study, and it is unclear whether GPF really predict a better prognosis. In the only study examining this issue, Guldberg and others reported a lack of association between 2 or more GPF and good prognosis (n = 16); in this study, only confusion predicted good prognosis (6).

Therefore, we examined the long-term outcome of a group of SFD patients and evaluated the predictive properties of the GPF and other variables at index hospitalization.

Method

We studied 36 patients who were admitted to our ward between 1983 and 1993 and had a discharge diagnosis of SFD. After approval by our hospital's Institutional Research Board, we recorded their demographic and clinical characteristics at index hospitalization (including the number of GPF). We requested information about additional admissions from the National Register of Psychiatric Hospitalizations and obtained the discharge letter from these admissions. We also required information from the treating psychiatrist.

We contacted the patients by phone, an average of 12 years after their index admission (SD 2.5), and invited them to participate in the study. On contact, we made every attempt to ensure maximal discretion. Some patients were interviewed face-to-face (n = 8) or on the phone (n = 14), while information on other patients (n = 11) was obtained from the treating psychiatrists. The patients gave informed consent before the interview.

Overall, we had data on further hospitalizations for the whole sample, and on diagnosis for 33 patients (92%). The 3 patients who could not be traced were still living in Israel, which enabled us to conclude that at least they were not hospitalized (according to the Register of Hospitalizations).

During the interviews, the illness course was noted, as was the diagnosis. The data of those who were readmitted were compared with those who were not readmitted. Also, the data of the subjects who remained in stable remission (that is, recovered fully) were compared with those who had additional episodes. Outcome predictors were derived from the index hospitalization and included various demographic and clinical characteristics (for example, age, sex, length of psychotic episode before admission, the presence of ill relatives, GPF, and confusion). Outcome (dependent) variables were the presence of psychiatric diagnosis, time to first readmission, time to first relapse, and number of additional admissions.

We compared the categorical variables using chi-square analysis. We estimated the cumulative probability of relapse or readmission using the Kaplan Meier model. We used survival analyses that focused on the time of an event of interest (that is, hospitalization or relapse). We defined relapse as the reoccurrence of psychotic symptoms for 4 weeks (or longer) after at least 12 weeks of recovery. The survival analysis took into account the different lengths of patient follow-up. We then evaluated whether the independent variables predicted good prognosis.

Results

The mean age at index admission was 20.7 years (SD 3.35). Of the subjects, 47% were male, 53% were female, 89% were born in Israel, 95% were single, and 72% were soldiers. The mean duration of the mental change before admission was 3.55 (SD 3.8) weeks and the mean length of the admission was 2.95 (SD 1.24) months.

At our evaluation, 8 subjects were married, 3 divorced, and 22 single; 84% had additional (mostly psychotic) episodes during the follow-up.

We diagnosed 18 patients (50%) with schizophrenia, 7 (20%) with schizoaffective disorder, 2 (6%) with bipolar disorder, and 6 (16%) with no psychiatric diagnosis. Of the sample, 2 also committed suicide.

Of those sampled, 18 patients (50%) had not been readmitted to a psychiatric ward during the follow-up period. We found that the more GPF, the lesser chance of readmissions. Patients with 0 or 1 GPF had a mean of 3.33 (SD 4) additional readmissions (Figure 1); patients with 2 GPF had a mean of 2 readmissions (SD 3) and patients with 3 or 4 GPF had a mean of 0.95 readmissions (SD 1.68). This trend did not reach statistical significance, due to the small sample size. A survival analysis revealed that the patients who had 2 or more GPF (n = 30) had a better prognosis and shorter hospital stay than those who had fewer than 2 GPF (n = 6). This reached statistical significance with a Kaplan Meier analysis (Mantel Cox model, P = 0.04) (Figure 2).

Apart from the number of GPF, confusion was the only clinical factor that predicted good prognosis (that is, no

Figure 1. Number of readmissions according to number of good prognostic factors (GPF)

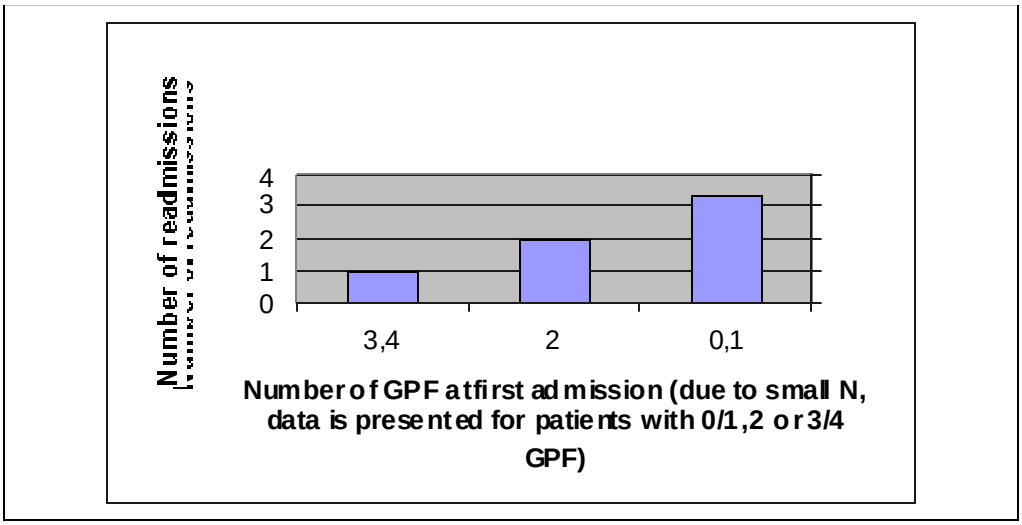


Figure 2. Kaplan Meier survival probability plot of time to readmission is displayed. There was a statistically significant difference between sub groups: those with at least 2 GPF had longer time to readmission ($P = 0.04$)

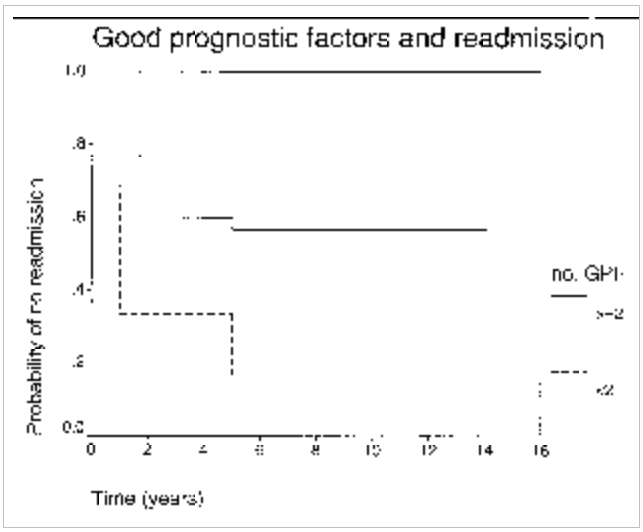
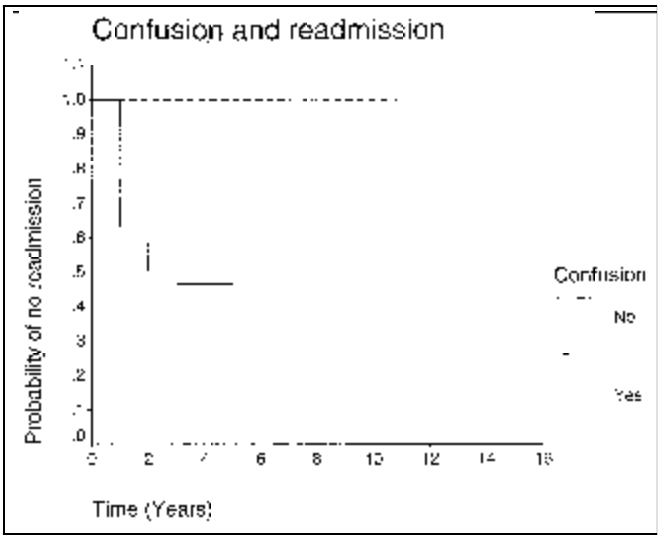


Figure 3. Kaplan Meier survival probability plot of time to readmission is displayed. There was a statistically significant difference between the groups: those with confusion at index admission had better prognosis (that is, no readmission) ($P = 0.016$)

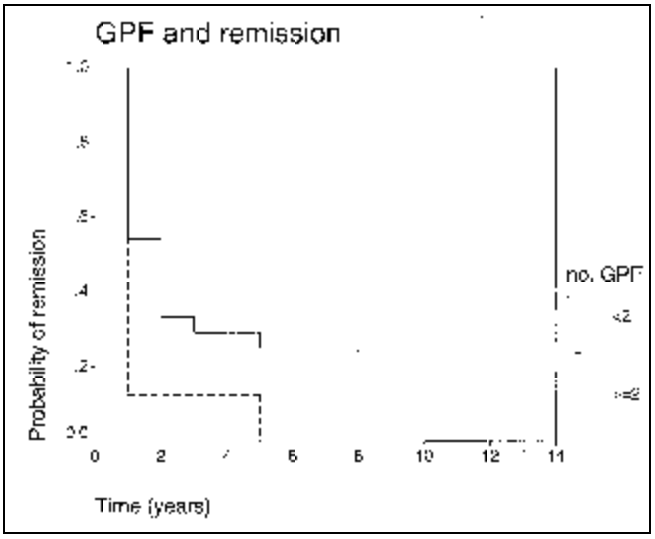


readmissions) at follow-up (Figure 3). On a survival analysis, those who were confused at index hospitalization had a better prognosis($P = 0.016$): patients who were confused at index admission were not hospitalized again. None of the additional independent variables predicted good prognosis regarding readmissions. We also found that patients with at least 2 GPF at the index admission had a better chance of remaining in remission, compared with those having fewer GPF ($P < 0.05$) (Figure 4).

Discussion

We found that, based on a 12-year follow-up, SFD has a prolonged impact on the mental condition and social functioning of patients. The findings of this study accord with the proposed DSM-IV criteria and the literature regarding the long-term prognosis of SFD and the importance of GPF. SFD seems to be an early manifestation of schizophrenia: 50% of those sampled developed schizophrenia, and 20% developed schizoaffective disorder. Only a few patients did not have additional relapses—a pessimistic finding at 12-year follow-up.

Figure 4. Kaplan Meier survival probability plot of time to relapse is displayed. There was a statistically significant difference between the groups: those with at least 2 GPF had a longer time to relapse ($P = 0.05$)



Our findings support the opinion of Strakowsky regarding the low stability of this diagnosis and its questionable validity (most patients develop other disorders) (1). However, the prognosis of these patients is better than that of schizophrenia patients. In our 12-year follow-up, 50% of the patients had another readmission, whereas in cases of schizophrenia that rate is reached after 2 to 5 years (7). Indeed, most of our patients (83%) were diagnosed with good prognosis SFD, and this might have resulted in the better outcome. Our study is characterized by a high participation rate and a long follow-up—longer than that of most other studies based on DSM criteria.

However, our results should be interpreted in the context of several potentially significant methodologic limitations. First, the number of SFD subjects in our study was relatively small, causing low statistical power. Despite this, the only variable as yet reported to predict good outcome did prove a useful predictor in our study. Second, the clinical information at index admission was collected by various psychiatrists with different backgrounds, and no objective measures were used. (Nevertheless, although our study was retrospective and relied on record reviews and nonstandardized measures, we succeeded in validating the predictive role of the GPF proposed in the DSM-IV.) Third, it was difficult for us to assess the present condition because we depended on various sources (for example, face-to-face or phone interview); due to various technical problems, we could not assess all patients at our centre with standardized measures, despite our initial intention. Finally, due to the naturalistic follow-up, we could not control for treatment. We are aware of the confounding effect of this variable and the complexity of its involving factors of illness severity, treatment seeking, treatment choice, and treatment length (depending on mental condition).

It is unclear why confusion at index hospitalization predicts better outcome. Perplexity might reflect a pathophysiological mechanism that discriminates those with atypical psychosis (presenting with confusion) from those with typical psychosis (without confusion). However, we assume that confusion is part of the acute appearance of the mental crisis, with high free-floating anxiety; after reaching a clear paranoid system, perplexity might decrease as one understands "what is going on" (that is, the "psychotic solution"). It seems that this acuity is in fact the variable that predicts better outcome. Indeed, confusion also predicts better prognosis in schizophrenia (7) and postpartum psychosis (8). The better prognosis of those with 2 GPF or more is also not surprising; the length of the mental crisis and the premorbid functioning are important in most, if not all, psychiatric conditions, and are thus nonspecific.

Longitudinal studies in the field of the psychoses are needed to ascertain the long-term prognosis of patients with SFD. Important issues are treatment selection (for example, antipsychotic drugs or lithium), treatment length, and outcome. First-episode psychosis studies and specialized clinics might improve our knowledge and treatment of these conditions and, in the future, might reduce the length of the untreated psychosis prior to the first episode.

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Résumé : Une étude de suivi des patients souffrant du trouble schizophréniforme selon le DSM-IV

Contexte : Le diagnostic du trouble schizophréniforme (TSF) est mal défini et le pronostic se situe dans le spectre psychotique.

Méthode : Nous avons étudié 36 patients hospitalisés à notre département entre 1983 et 1993 pour TSF. Nous avons communiqué avec les patients en moyenne 12 ans après l'hospitalisation indice, et nous avons noté l'évolution de leur maladie ainsi que leur diagnostic actuel.

Résultats : Dans l'échantillon, 84 % avaient des épisodes additionnels, surtout psychotiques, durant le suivi, et 70 % avaient des diagnostics dans le spectre schizophrène (c'est-à-dire, la schizophrénie et le trouble schizo-affectif). Une analyse de survie a révélé que la confusion et la présence d'au moins 2 caractéristiques de bon pronostic (CBP) lors de l'hospitalisation indice prédisaient un meilleur résultat.

Conclusions : Le TSF semble être une manifestation précoce de la schizophrénie. Seuls quelques sujets de l'échantillon n'ont pas eu de rechutes additionnelles — une observation pessimiste après 12 ans de suivi. Les résultats de cette étude sont conformes aux critères du DSM-IV et à la documentation en ce qui concerne le pronostic à long terme du TSF et l'importance des caractéristiques de bon pronostic.