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ORIGINAL PAPER

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Course and outcome of first-admitted patients with acute and transient psychotic disorders (ICD-10:F23)

Focus on relapses and social adjustment

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Abstract *Objective* The aim of the present study was to investigate course and outcome of acute and transient psychotic disorders (ATPD). *Method* A sample of 73 first-hospitalized patients was evaluated after three to seven years in order to determine the frequency of relapses and to assess social adjustment. *Result* Forty-two percent experienced no relapse, 46 % experienced relapses without developing marked deficits in social adjustment and 12 % had relapses associated with a severe social impairment. At discharge from first hospitalization the last group was distinguishable from the other two with respect to negative and depressive symptoms as well as the total score of the Strauss-Carpenter scale. *Conclusion* Only a minority of first-hospitalized patients with ATPD develop a severe social impairment after three to seven years. This subgroup, however, is not compatible with the concept of a "transient" psychotic disturbance, but rather with an early manifestation of a chronic schizophrenic disorder.

Key words acute and transient psychotic disorders · ICD-10 · diagnoses · validity · follow-up

Introduction

The category of acute and transient psychotic disorders (ATPD) was introduced in 1992 with the 10th revision of the International Classification of Diseases (ICD-10) (WHO 1992). ATPD replaced the category of "other nonorganic psychoses" in ICD-9 (WHO 1977), which was derived from the Scandinavian concept of reactive psychoses (Strömgren 1987; Wimmer 1916). However, following a descriptive approach, ICD-10 has given only low priority to the presence of psychosocial stressors for the diagnosis of ATPD. Instead, the defining features of ATPD are an acute onset of psychotic symptoms within two weeks and a full recovery within one to three months. A depressive, manic or mixed affective episode has to be excluded. The presence of preceding stressors is not decisive, but if present may be coded additionally. Depending on the clinical picture the category of ATPD is divided into several subgroups: acute polymorphic psychotic disorder without and with symptoms of schizophrenia (F23.0 and F23.1, respectively), acute schizophrenia-like psychotic disorders (F23.2), other acute predominantly delusional psychotic disorders (F23.3) and other or non-specific acute and transient psychotic disorders (F23.8 and F23.9, respectively). The polymorphic subtypes, which are derived from the description of cycloid psychosis (Leonhard 1957; Perris 1974) and bouffee delirante (Mangan 1893; Pichot 1986), are characterized by rapidly changing symptoms, emotional turmoil, ecstasy, overwhelming anxiety, marked irritability, perplexity or misidentification of people or places. In contrast to the traditional concepts of reactive psychoses, cycloid psychoses and bouffee delirante, the cross-sectional delimitation of ATPD from schizophrenia and delusional disorders in the ICD-10 results neither from a specific clinical picture nor from the relationship to precipitating stressors, but from the mode of onset and the duration of psychotic symptoms.

ATPD is a common psychiatric diagnosis in Europe (Healy et al. 2001; Lange et al. 2002) as well as in developing countries (Okasha et al. 1993). In recent years there has been an increasing interest in ATPD (Jorgenson et al. 1997; Marneros et al. 2002; Pillmann et al. 2001, 2002; Sajith et al. 2002). However, to date, little is known about the diagnostic validity of ATPD. Following the model of Robins and Guze (1970), diagnostic validity can be examined with respect to the cross-sectional clinical picture, biological variables, family history as well as course and outcome, whereby the present study focuses on the last two topics. The historical predeces-

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sors of ATPD, reactive psychoses (Strömgren 1987; Wimmer 1916), cycloid psychoses (Leonhard 1957; Perris 1974), and bouffee delirante (Mangan 1893; Pichot 1986) aimed at the delimitation of benign psychotic disturbances with a remitting course and good social functioning from psychotic disorders with chronic course and persisting social impairment (Jablensky 2001; Menuk et al. 1989). Following this approach, ATPD should be associated with a non-chronic course and the absence of a marked social impairment. In fact, ICD-10 guidelines suggest that only a minority of patients with ATPD develop a persistent impairment. However, early identification of this subgroup is not considered as possible (WHO, 1992). Previous studies have pointed out the principally favorable course of ATPD (Jorgenson et al. 1997; Marneros et al. 2002).

The present study aims to expand the empirical database on the course and outcome of ATPD. A sample of inpatients first admitted in the years 1995 to 1999 with the diagnosis of ATPD was contacted three to seven years after the first hospitalization in order to i) determine the frequency of relapses and rehospitalizations, ii) to assess the social adjustment and iii) to examine the association of relapses and social impairment with psychopathological and sociodemographic variables at the time of first hospitalization.

Material and methods

Selection of patient sample

The sample includes all psychiatric inpatients (consecutive admissions) who were first admitted between January 1, 1995 and December 31, 1999 to the psychiatric department of the Ludwig-Maximilians University, Munich and were diagnosed as ATPD. Patients stem from a clearly defined catchment area (Munich and surroundings). Diagnoses were made by well-experienced resident psychiatrists according to the clinical descriptions and diagnostic guidelines for ICD-10 (WHO 1992); rater-trainings were regularly performed.

Index assessment (first hospitalization)

At the time of first hospitalization, psychopathological characteristics were prospectively assessed in a standardized manner using the AMDP system. The ratings were performed on the day of admission and at discharge. Psychopathological rater-trainings were performed regularly to establish a high interrater reliability. The AMDP system was developed in Europe by the Association for Methodology and Documentation in Psychiatry (AMDP) in order to standardize the assessment of psychopathological symptoms. It is based on traditional descriptive psychopathology and covers all psychopathological manifestations of functional psychoses (Bobon 1983). Each item of the AMDP system can be graduated on a four-point (0–3) scale. Pietzcker et al. (1983) extracted several psychopathological syndromes by using the principal component analysis of the AMDP ratings. For the purpose of the present study, the total scores of the paranoid-hallucinatory, the manic and the depressive syndromes (Pietzcker et al. 1983) and the negative syndrome (Angst et al. 1989) were calculated.

Global psychosocial functioning was assessed using the GAS, Global Assessment Scale (Endicott et al. 1976). This is an internationally well-known single-dimension rating scale for the evaluation of the overall functioning of a subject on a continuum from severe psychiatric illness (rated 0) to health (rated 100). The GAS has ten behavioral definitions, one for each ten-point interval. The assessment is not influenced by consideration of prognosis, diagnosis or the presumed nature of the underlying disorder.

Further prognostic variables were assessed with the Strauss-Carpenter scale (Strauss and Carpenter 1974). The German translation of the original version from 1974 was used, which has an inverse scoring (0–4) for each of the 14 items. The total score ranges from 0 to 56.

Follow-up procedure

The clinical outcome was assessed in telephone interviews three to seven years after the first hospitalization. Telephone interviews have been used in several follow-up studies (Carpenter and Strauss 1991; Rigatelli et al. 2001; Simon et al. 2001). In the present study this interview included questions concerning relapses, rehospitalizations (psychiatric hospitals), social impairment and global functioning. Following Marneros et al. (2002), "relapse" was defined as an occurrence of a major affective syndrome or psychotic symptoms which lead to hospitalization or outpatient treatment, including psychiatric medication and disruption of daily activities. Social impairment was assessed using the DAS-S, Short Disability Assessment Schedule (Janca et al. 1996), which covers four domains of social functioning: personal care, occupation, family and household, broader social context. Each domain can be graduated on a six-point scale from "no disability" (rated 0) to "gross disability" (rated 5). In the present study the assessment refers to the social adjustment in the year prior to the follow-up examination. The patients gave informed consent to complete the statements made in the telephone interviews with the information from other physicians and clinical case records. All ratings at follow-up were performed by the first author (M. J.).

Statistics

Statistical analyses were carried out using the SPSS 7.5 Software for Windows. Group differences for all continuous variables were compared using the Mann-Whitney U test. Group differences for all categorial variables were evaluated using the Chi-square test. For all statistical analyses a p-value of < 0.05 was considered as statistically significant.

Results

Description of patient sample

Among all patients treated between December 1, 1995 and January 31, 1999 for non-affective functional psychoses (ICD-10: F2) in the psychiatric department of the Ludwig-Maximilians University, Munich, 7.9 % were diagnosed as having ATPD (ICD-10: F23). All first admitted patients with this diagnose (n = 94) were included in the study. Forty-nine patients (52 %) were male and 45 (48 %) female. The mean age at first hospitalization was 33.1 years (SD = 10.6).

The following distribution of diagnostic subgroups was found: Twenty-two percent were diagnosed as having acute polymorphic psychotic disorder without symptoms of schizophrenia (F23.0), 30 % acute polymorphic psychotic disorder with symptoms of schizophrenia (F23.1), 33 % acute schizophrenia-like psychotic disorder (F23.2), 10 % other acute predominantly delusional psychotic disorder (F23.3) and 6 % other acute and transient psychotic disorders (F23.8, F23.9).

Follow-up information was available for 73 patients (78 %). No differences were found between the total

sample (n = 94) and the follow-up sample (n = 73) with regard to age, gender and diagnostic subgroups. Therefore, a selection bias concerning these variables seems improbable.

Frequency of relapses and rehospitalizations

During the follow-up period, 58 % (n = 42) of patients experienced a relapse, i. e., they had at least one further episode of major affective or psychotic symptoms leading to rehospitalization or outpatient treatment. Nineteen percent (n = 14) of the sample were rehospitalized once, 12 % (n = 9) twice and 14 % (n = 10) three or more times (Fig. 1).

At the time of discharge from the first hospitalization 81 % of patients were being treated with neuroleptics, 2 % with antidepressants, 4 % with mood stabilizers, and only 13 % were taking no psychotropic medication. In contrast, at the time of follow-up 41 % of patients were taking no psychotropic medication, 34 % were being treated with neuroleptics, 3 % with antidepressants, 1 % with mood stabilizers and 21 % with combinations.

Social adjustment at follow-up

Social functioning in the year prior to the follow-up examination was assessed using the Short Disability Assessment Schedule (DAS-S). Following Vázquez-Barquero et al. (1999) the six levels of the DAS-S were collapsed into three: good [0–1], fair [2–3], poor [4–5]. The results are shown in Fig. 2.

Seventy-eight percent of the patients had good functioning with respect to personal care, 48 % with respect to occupation, 51 % with respect to family and household and 49 % with respect to the broader social context. Only a few patients had developed a severe social impairment: 1 % had poor functioning with regard to personal care, 11 % with regard to occupation, 4 % with regard to family and household and 10 % with regard to the broader social context. Taken together, 12 % had a poor social adjustment in at least one of the four domains.

Fig. 3 shows the social adjustment in the group of patients who experienced a relapse during the follow-up

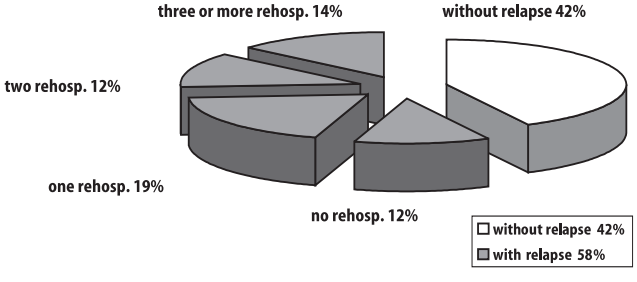

Fig. 1 Relapses and rehospitalizations (follow-up sample, n = 73)

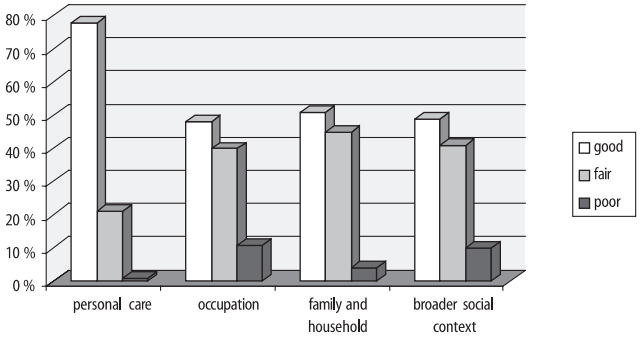

Fig. 2 Social adjustment (DAS-S): total follow-up sample (n = 73)

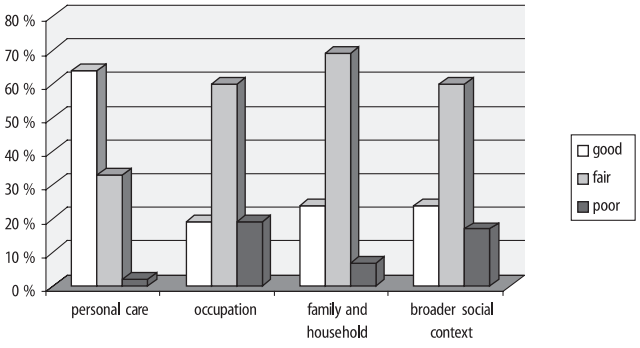

Fig. 3 Social adjustment (DAS-S): patients with relapse (n = 42)

period. As expected, patients with relapse had a more unfavorable social functioning. However, only a minority of these showed severe social impairment: 2 % with respect to personal care, 19 % with respect to occupation, 7 % with respect to family and household and 17 % with respect to the broader social context. Otherwise, patients without relapse showed excellent social functioning in the year prior to the follow-up examination. There were no cases with poor social functioning in this group.

Association of relapses and social impairment at follow-up with psychopathological and sociodemographic variables at time of first hospitalization

In order to examine the association of relapses with psychopathological and sociodemographic variables at the time of first hospitalization, patients with a relapse (n = 42; 58 %) were compared to those without a relapse (n = 31; 42 %) with respect to age at first hospitalization, gender, diagnostic subgroups, the clinical picture at both admission and discharge from the first hospitalization (paranoid-hallucinatory syndrome, negative syndrome, depressive syndrome, manic syndrome) and the total score of the Strauss-Carpenter scale at first hospitalization (Table 1).

The only significant difference was found with respect to the paranoid-hallucinatory syndrome at the

Table 1 Association of relapses with psychopathological and sociodemographic variables at first hospitalization

	Patients with relapse (n = 42)	Patients without relapse (n = 31)	Significance
Gender (% female)	45%	58%	p = 0.279
Age (first hospitalization) (mean ± SD)	33.0 (±16.7)	30.1 (±11.2)	p = 0.204
Diagnostic subgroups			
F23.0 (n, %)	7 (17%)	7 (23%)	
F23.1 (n, %)	12 (29%)	10 (32%)	
F23.2 (n, %)	17 (41%)	9 (29%)	
F23.3 (n, %)	3 (7%)	4 (13%)	
F23.8, 9 (n, %)	3 (7%)	1 (3%)	p = 0.703
Strauss-Carpenter scale total score (mean ± SD)	27.6 (±6.0)	26.6 (±5.8)	p = 0.424
GAS (first hospitalization)			
admission (mean ± SD)	38.6 (±11.8)	43.6 (±18.9)	p = 0.464
discharge (mean ± SD)	73.6 (±12.0)	75.2 (±12.4)	p = 0.698
Duration of first hospitalization (days, mean ± SD)	28.2 (±17.9)	31.3 (±19.7)	p = 0.376
AMDP syndromes (first hospitalization)			
paranoid-hall. syndrome			
admission (mean ± SD)	**10.2 (±5.1)**	**7.4 (±6.0)**	**p = 0.023**
discharge (mean ± SD)	0.6 (±1.6)	0.6 (±2.5)	p = 0.204
negative syndrome			
admission (mean ± SD)	7.9 (±3.9)	7.4 (±5.2)	p = 0.395
discharge (mean ± SD)	1.7 (±2.0)	1.2 (±1.7)	p = 0.365
depressive syndrome			
admission (mean ± SD)	5.0 (±4.3)	5.4 (±5.0)	p = 0.850
discharge (mean ± SD)	1.0 (±1.7)	0.8 (±2.6)	p = 0.194
manic syndrome			
admission (mean ± SD)	3.2 (±3.8)	2.4 (±2.9)	p = 0.550
discharge (mean ± SD)	1.7 (±2.0)	1.2 (±1.7)	p = 0.760

time of admission. Patients with a relapse had a higher mean value in the total score of this syndrome compared to patients without a relapse.

In order to examine the association of social impairment at follow-up with psychopathological and sociodemographic variables at the time of first hospitalization, the sample was divided into two groups which were then compared with respect to the variables mentioned above: patients with poor social functioning (DAS-S value of four or five in at least one domain: n = 9; 12%) and patients with good/fair social functioning (DAS-S value of one to three in all domains: n = 64; 88%) (Table 2).

Significant differences between the two groups were found in the total score of the Strauss-Carpenter scale, the negative syndrome and the depressive syndrome at discharge from the first hospitalization: Patients who showed severe social impairment at follow-up had higher mean values in the total score of the Strauss-Carpenter scale and total scores of the depressive syndrome and the negative syndrome at discharge from first hospitalization. Differences concerning the age at time of first hospitalization (23.2 years vs. 32.4 years) did not reach statistical significance.

Discussion

The aim of the present study was to investigate course and outcome of acute and transient psychotic disorders (ATPD). Robins and Guze (1970), who published an important article entitled "Establishment of diagnostic validity in psychiatric illness", pointed out that marked differences in outcome, such as between complete recovery and chronic illness, should be regarded as a challenge to the validity of a diagnostic concept leading to a modification of the diagnostic criteria. Following the concepts of the historical predecessors of ATPD such as reactive psychoses (Strömgren 1987; Wimmer 1916), cycloid psychoses (Leonhard 1957; Perris 1974) and bouffee delirante (Mangan 1893; Pichot 1986), which aimed at the delimitation of benign psychotic disturbances from chronic schizophrenic disorders (Jablensky 2001; Menuk et al. 1989), ATPD should be associated with a benign course and the absence of social impairment. In the present study first-hospitalized patients with the diagnosis of ATPD according to the clinical guidelines of ICD-10 (WHO, 1992) were contacted three to seven years after their first hospitalization in order to determine the frequency of relapses and rehospitalizations, to assess social adjustment and to examine the association of relapses and social impairment with psychopathological and demographic variables at the time of first hospitalization.

Table 2 Association of social impairment at follow-up with psychopathological and sociodemographic variables at first hospitalization

	Patients with poor social functioning at follow-up (n = 9)	Patients with good/fair social functioning at follow-up (n = 64)	Significance
Gender (% female)	33 %	53 %	p = 0.266
Age (first hospitalization) (mean ± SD)	23.2 (± 13.0)	32.4 (± 13.6)	p = 0.088
Diagnostic subgroups			
F23.0 (n,%)	1 (11 %)	13 (20 %)	
F23.1 (n,%)	3 (33 %)	19 (30 %)	
F23.2 (n,%)	3 (33 %)	23 (36 %)	
F23.3 (n,%)	2 (22 %)	5 (8 %)	
F23.8, 9 (n,%)	0	4 (6 %)	p = 0.615
Strauss-Carpenter scale total score (mean ± SD)	**33.7 (± 5.9)**	**26.2 (± 5.3)**	**p = 0.002**
GAS (first hospitalization)			
admission (mean ± SD)	38.4 (± 10.7)	41.0 (± 15.9)	p = 0.886
discharge (mean ± SD)	68.9 (± 12.4)	75.0 (± 11.9)	p = 0.187
Duration of first hospitalization (days, mean ± SD)	31.0 (± 24.9)	29.3 (± 17.7)	p = 0.785
AMDP syndromes (first-hospitalization)			
paranoid-hall. syndrome			
admission (mean ± SD)	10.8 (± 5.7)	8.8 (± 5.7)	p = 0.198
discharge (mean ± SD)	0.4 (± 1.9)	1.2 (± 2.9)	p = 0.168
negative syndrome			
admission (mean ± SD)	9.4 (± 2.1)	7.4 (± 4.7)	p = 0.083
discharge (mean ± SD)	**3.7 (± 3.0)**	**1.2 (± 1.4)**	**p = 0.002**
depressive syndrome			
admission (mean ± SD)	7.9 (± 5.7)	4.8 (± 4.3)	p = 0.062
discharge (mean ± SD)	**2.1 (± 1.7)**	**0.8 (± 2.1)**	**p = 0.013**
manic syndrome			
admission (mean ± SD)	4.0 (± 4.3)	2.7 (± 3.6)	p = 0.415
discharge (mean ± SD)	0.6 (± 1.3)	0.4 (± 1.1)	p = 0.237

In the psychiatric department of the Ludwig-Maximilians University, Munich, the frequency of ATPD within the whole spectrum of non-affective functional psychoses (ICD-10: F2) (7.9 %) is comparable to that of other German psychiatric hospitals, as reported by Marneros et al. (2002) (8.5 %) and Lange et al. (2002) (5.9 %), but lower than in Denmark (Lange et al. 2002) (11.8 %) and in Wales (Healy et al. 2001) (20.1 %).

Relapses and social impairment in ATPD

Following the results of the present study, it is possible to divide the course and outcome of ATPD into three groups: patients who experienced no relapse (42 %), patients with relapse, but without marked deficits in the social adjustment (46 %) and patients with relapse as well as a severe social impairment (12 %). Because the assessment of social adjustment refers to the full last year prior to follow-up examination, this impairment seems to reflect a persistent alteration. However, these results may be confounded by the different lengths of the follow-up periods in the present study (three to seven years), since a longer follow-up period is associated with a higher probability of experiencing a relapse or developing a social impairment. Nevertheless, the findings are in line with previous studies which demonstrated a favorable outcome for the majority of patients with ATPD (Jorgenson et al. 1997; Marneros et al. 2002). In particular, ATPD seems to be distinguishable from schizophrenia with respect to the social outcome: Vázquez-Barquero et al. (1999), who examined 76 schizophrenic patients (PSE/CATEGO classes: S+, S?, P+, P?) three years after their first episode, found that 42 % of this sample had a poor social adjustment at follow-up (DAS value of four or five), whereas the present study found a comparable severe social impairment in only 12 % of patients with ATPD.

On the other hand, the results reveal that a minority of first-admitted patients with ATPD developed marked deficits in social adjustment during the follow-up period. This means that acute onset and full recovery within one to three months, the constituent diagnostic criteria of ATPD, are not always associated with a favorable outcome. From a longitudinal point of view, the subgroup with severe social impairment is not compatible with the concept of a "transient" psychotic disorder, but rather with the concept of schizophrenia in terms of a chronic disorder. These findings support the assumptions of Jorgenson et al. (1997) that some of the brief psychotic episodes with an acute onset may be an early manifestation of a severe mental disorder.

Prediction of outcome in ATPD

The results of the present study show that there are differences between the group with an unfavorable outcome and the remaining sample at time of first hospitalization: Patients with a severe social impairment at follow-up were characterized by higher means in the total score of the negative syndrome (Angst et al. 1989) and the depressive syndrome (Pietzcker et al. 1983) at discharge from the first hospitalization. Therefore, persisting "negative" and/or "depressive" symptoms in patients with ATPD may predict an unfavorable outcome in terms of a chronic schizophrenic disorder. Furthermore, the patients with marked social deficits at follow-up showed a higher mean in the total score of the Strauss-Carpenter scale at the time of first hospitalization. This scale, which was developed for the prediction of outcome in schizophrenia (Strauss and Carpenter 1974), also seems to have a prognostic impact for patients who fulfill the ICD-10 criteria for ATPD at the time of first hospitalization.

No significant differences between the group with an unfavorable outcome and the remaining sample were found with regard to the duration of hospitalization and the global functioning (GAS) at discharge. This is not surprising because all patients fulfilled the diagnostic criteria for ATPD (full recovery within one to three months) at the time of first hospitalization. Significant differences were also not found with respect to the diagnostic subgroups of ATPD. Therefore, the hypothesis that the polymorphic subtypes which are conceptually associated with the traditional constructs of "cycloid psychoses" (Leonhard 1957; Perris 1974) and "bouffee delirante" (Mangan 1983; Pichot 1986), show a more favorable outcome than non-polymorphic subtypes of ATPD (Pillmann et al. 2001; Sajith et al. 2002) can not be confirmed in the present study. However, this conclusion is limited by the restricted number of patients in the different subgroups and needs further validation.

Limitations

The present study is not without limitations. First, one can criticize the method of telephone interviews. However, this is a common method in psychiatric research (Carpenter and Strauss 1991; Rigatelli et al. 2001; Simon et al. 2001). Carpenter and Strauss (1991) examined the comparability of in-person and telephone interview methods: although the telephone interview group had a slightly better outcome than the in-person interview group, both methods were considered quite comparable. Furthermore, social outcome was assessed with the short form of the Disability Assessment Schedule (DAS-S). The authors themselves have suggested the need of future refinements of this instrument (Janca et al. 1996). Nevertheless, the DAS-S is a useful tool and covers four important domains of social functioning (personal care, occupation, family and household, broader social context). Third, the present study is limited by its naturalistic design: No control over treatment was made. The results may be confounded by the different lengths of the follow-up periods (three to seven years). Finally, one can criticize the absence of a control group, e. g., healthy controls or first-hospitalized patients fulfilling ICD-10 criteria for schizophrenia.

Therefore, all conclusions should be regarded with caution. Nevertheless, the results of the present study are in concordance with the other studies mentioned above that have demonstrated a favorable outcome for the majority of patients with ATPD.

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