Eur Arch Psychiatry Clin Neurosci (1991) 241:187–192

European Archives of Psychiatry and Clinical Neuroscience

Stability of Diagnoses in Affective, Schizoaffective and Schizophrenic Disorders

Cross-sectional Versus Longitudinal Diagnosis*

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Received July 29, 1991

Summary. The present study investigated the syndrome shift during the course of disease in 355 patients with functional psychoses. The mean observation time was 25.2 years. Every episode was diagnosed cross-sectionally as schizophrenic, melancholic, manic, manic-depressive mixed, schizodepressive, schizomanic or schizomanic-depressive mixed. With regard to the whole course, 148 patients fulfilled the diagnostic criteria of schizophrenic, 106 of affective and 101 of schizoaffective disorders. Patients with a schizophrenic initial episode showed the greatest stability: 90% had no other type of episode. The majority of patients who suffered a melancholic initial episode remained unipolar melancholics or developed manic symptomatology, and only a few suffered schizoaffective or schizophrenic episodes. Patients with a manic symptomatology at the beginning had a very unstable and changeable course. The stability of patients with initial schizodepressive episodes lay between that of patients with melancholic initial episodes and that of those with manic initial episodes. The findings demonstrate the relevance of longitudinal considerations in making the final diagnosis.

Key words: Functional psychoses – Long-term course – Stability of diagnosis – Syndrome shift

1 Introduction

The research on course and outcome of affective, schizoaffective and schizophenric disorders shows that diagnostic shift is not a rare phenomenon (Angst 1986, Marneros et al. 1988a). Figures on the frequency of the so-called diagnostic change or syndrome shift vary between more than 50% (Cutting et al. 1978, Lewis and Piotrowski 1954, Horgan 1981) and less than 10% (Clark and Mallett 1963, Winokur 1974, Angst et al. 1978, Coryell and Winokur 1980, Lee and Murray 1988). The frequency of such changes, however, is a function partly of observation time and partly of diagnostic criteria (Angst 1986, Marneros et al. 1988b, 1991).

The present study investigated the stability of a cross-sectional diagnosis over a long period (more than 25 years on average) and examined the question of the classification of disorders with a polymorphous course, i.e. with more than one type of episode during the whole course.

2 Material, Methods and Definitions

The present investigation was part of the Cologne Study on the long-term course and outcome of affective, schizoaffective and schizophrenic disorders (Marneros et al. 1991). It was based on the follow-up investigation of 402 patients (mean duration of illness 25.2 years, minimum 10 years, maximum 61 years) with the following index diagnoses: schizophrenia, endogenous depression, mania, suspected schizophrenia and schizoaffective disorders.

All recorded episodes were evaluated and defined according to slightly modified DSM-III criteria (the criteria for episodes have been published in detail elsewhere, Marneros et al. 1988b, 1991). Of the investigated patients, 355 had suffered one of the following episodes at least once (minimum 1, maximum 20): schizophrenic (SCH), melancholic (MEL), manic (MAN), manic-depressive mixed (MDE), schizodepressive (SDE), schizomanic (SMA) and schizomanic-depressive mixed (SMD). The remaining 47 patients did not fulfil the criteria for any of these episodes.

The 355 patients had a total of 1731 episodes (Table 1). The unclassifiable episodes ($n = 73$) were excluded, leaving 1658 episodes for consideration in this study. For statistical purposes, we considered an episode to be the clinical manifestation of symptoms for the period between the beginning and the end of inpatient or inpatient-like treatment (intensive medical care and interruption of usual work or duties) (Marneros et al. 1988b). The diagnostic criteria applied distinguish between "episode", which is defined cross-sectionally, and "disorder" or "illness", which is defined longitudinally. Using the diagnostic criteria described in Marneros et al. (1988b, 1991), 148 patients were diagnosed as having a schizophrenic, 106 patients as having an affective and 101 patients as having a schizoaffective disorder (Table 1).

A *schizophrenic disorder* was diagnosed if only schizophrenic episodes occurred during the whole course with no affective or schizoaffective episodes. A *schizoaffective disorder* was diagnosed if schizoaffective episodes were present or schizophrenic and affec-

* Supported by grants Ma 915-1/1, 915-1/2 and 915-2/1 from the German Research Association (Deutsche Forschungsgemeinschaft)

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Table 1. Features of studied population

Number of patients	355
Diagnosis using longitudinal criteria	
– Schizophrenic disorder	148
– Affective disorder	106
– Schizoaffective disorder	101
Length of observation time	
– Arithmetic mean	25.2 years
– Median	25.0 years
Number of episodes reported	1731
Number of episodes considered in this study (without unclassified episodes)	1658

tive episodes changing from one to another independently of their number, sequence or proportional representation. An *affective disorder* was diagnosed if only affective episodes occurred with no schizophrenic or schizoaffective episodes.

We examined the patients using the German translation of the Present State Examination (PSE, Wing et al. 1974, 1982), the Disability Assessment Schedule (WHO/DAS, WHO 1979, 1988) and the Psychological Impairments Rating Schedule (WHO/PIRS, WHO 1979, Biehl et al. 1989). The outcome was additionally assessed using the Global Assessment Scale (GAS, Spitzer et al. 1979). The SPSS computer programme was used for statistical evaluation.

3 Results

3.1 Type of Initial Episode

The initial episode was defined as the first episode in the course which fulfilled the criteria of one of the types of episode mentioned above. The frequency of the various types of initial episode is shown in Table 2.

3.2 Stability of Type of Episode During Course (Monomorphous Course)

We defined monomorphous course (or stability of the type of episode) as the occurrence of only one type of episode during the whole course and polymorphous course (or syndrome shift) as the change from one type of episode to another during the course. Very high stability was found in the cases beginning with a schizophrenic episode (Fig. 1): 90% of these patients had no type of episode other than schizophrenic during the whole course. Relatively high stability was also found in patients with a melancholic initial episode: 79% had no type of episode other than melancholic during the long-term course. Fifty-eight percent of the patients for whom the initial episode was a schizodepressive one had a stable course. However, the majority of patients in whom the initial episode showed a manic symptomatology (pure manic, schizomanic or manic-depressive mixed episode) exhibited a polymorphous course, i.e. they also suffered other types of episode than the initial one during the course.

In all of the patients who had a manic-depressive mixed initial episode, in 86% of the patients with a manic initial episode and in 77% of the patients who suffered a schizomanic initial episode, there was later a shift to another type of episode. In two of the four patients with a schizomanic-depressive mixed initial episode, another type of episode occurred later in the course. However, because of the small number for these patients, no statistical evaluation was made.

Table 2. Type of initial episode ($n = 355$)

Schizophrenic	165 (46.5%)
Melancolic	96 (27.0%)
Manic	21 (5.9%)
Manic-depressive mixed	8 (2.3%)
Schizodepressive	48 (13.5%)
Schizomanic	13 (3.7%)
Schizomanic-depressive mixed	4 (1.1%)

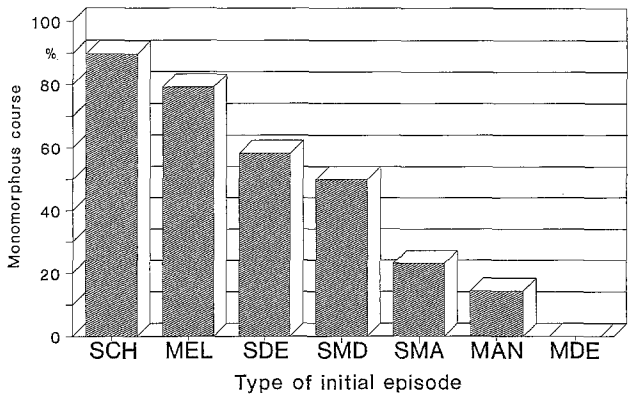

Fig. 1. Frequency of monomorphous courses in regard to type of initial episode. SCH = Schizophrenic episode; MEL = Melancholic episode; SDE = Schizodepressive episode; SMD = Schizomanic-depressive mixed episode; SMA = Schizomanic episode; MAN = Manic episode; MDE = Manic-depressive mixed episode

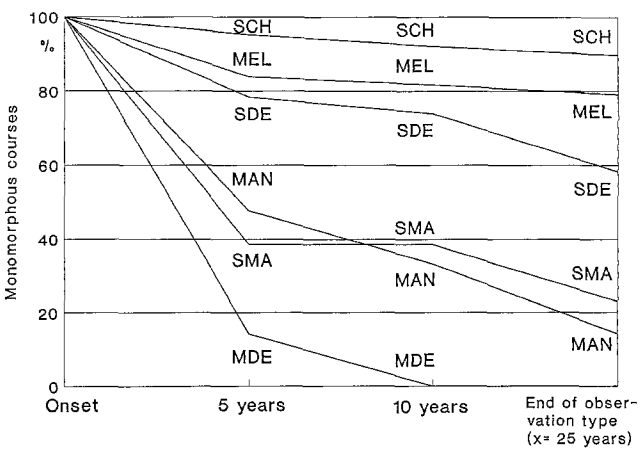

Fig. 2. Frequency of monomorphous courses in regard to type of initial episode and observation time (Abbreviations see Fig. 1)

3.3 Stability of Type of Episode in Relation to Length of Course

To investigate the stability of the syndrome in relation to the length of the course, the so-called "epoch analysis" was employed. Syndrome shifts were recorded 5 and 10 years after first manifestation and at the end of the observation time. We found that after 5 years more than 95% of the patients with a schizophrenic initial episode had experienced only schizophrenic subsequent episodes (Fig. 2), and 93% after 10 years. The stability remained high (90%) even after an average course of more than 25 years.

Although the stability of the course of patients who suffer a melancholic or a schizodepressive initial episode is not quite as high as that of schizophrenics, it remains striking: at 5 years after first manifestation, 85% of the patients with a melancholic initial episode and 79% of those with a schizodepressive initial episode had experienced no other type of episode. After 10 years, this still applied to 82% of the patients with a melancholic initial episode and to 75% of the patients with a schizodepressive initial episode. After a course of more than 25 years on average, 79% of the patients with a melancholic initial episode and 58% of the patients with a schizodepressive initial episode had suffered no other type of episode.

In contrast, there was a considerable syndrome shift in patients who had suffered initial episodes with a manic symptomatology (pure manic, schizomanic or manic-depressive mixed psychopathology) within the first 5 years of the course: 52% of the patients with manic, 61.5% of the patients with schizomanic and 87.5% of the patients with manic-depressive mixed initial episodes also had other types of episodes during this time. By 10 years after onset, all of the patients with manic-depressive mixed, about 67% of the patients with manic and 61.5% of the patients with schizomanic initial episodes had had a polymorphous course. In 67% of the patients with manic initial episodes and in 61.5% of those with schizomanic initial episodes more than one type of episode was demonstrated during the observation time.

3.4 Stability of Episode Type versus Stability of Final Diagnosis

According to the definitions used, a disorder or illness can feature various types of episode. Affective disorders can have up to three types of episode, namely melancholic, manic and manic depressive mixed episodes. The concurrent type of schizoaffective disorders can also include up to three types of episode and the sequential type up to seven (see Sect. 2). Therefore a polymor-

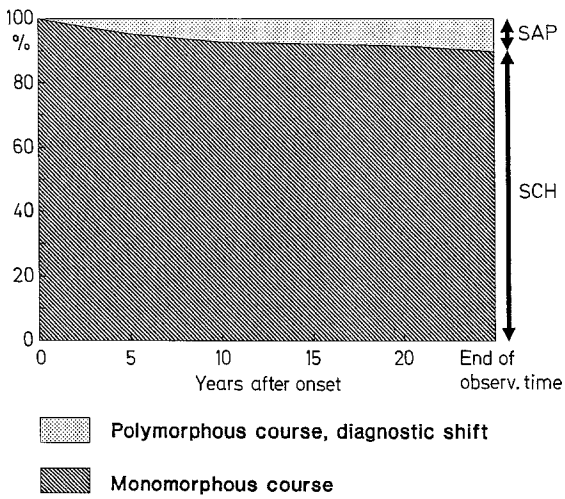

Fig. 3. Schizophrenic disorders ($n = 165$). Longitudinal diagnosis: SCH = Schizophrenic disorder; SAP = Schizoaffective disorder

Table 3. Types of episodes during course ($n = 1658$) (Abbreviations see Fig. 1)

Type of initial episode	Type of episodes							
	SCH	MEL	MAN	MDE	SDE	SMA	SMD	Total
Schizophrenic ($n = 165$)	636 91.5%	15 2.2%	8 1.2%	2 0.3%	15 2.2%	14 2.0%	5 0.7%	695
Melancholic ($n = 96$)	4 0.9%	372 84.7%	32 7.3%	12 2.7%	12 2.7%	3 0.7%	4 0.9%	439
Manic ($n = 21$)	8 6.4%	22 17.6%	63 50.4%	15 12.0%	1 0.8%	15 12.0%	1 0.8%	125
Manic-depressive mixed ($n = 8$)	1 28.3%	2 3.8%	7 13.2%	15 28.3%	0	10 18.9%	18 34.0%	53
Schizodepressive ($n = 48$)	19 7.5%	39 15.3%	10 3.9%	3 1.2%	163 63.9%	13 5.1%	8 3.1%	255
Schizomanic ($n = 13$)	4 5.8%	4 5.8%	10 14.5%	2 2.9%	3 4.3%	45 65.2%	1 1.4%	69
Schizomanic-depressive mixed ($n = 4$)	– 	1 4.5%	– 	1 4.5%	1 4.5%	1 4.5%	18 81.8%	22

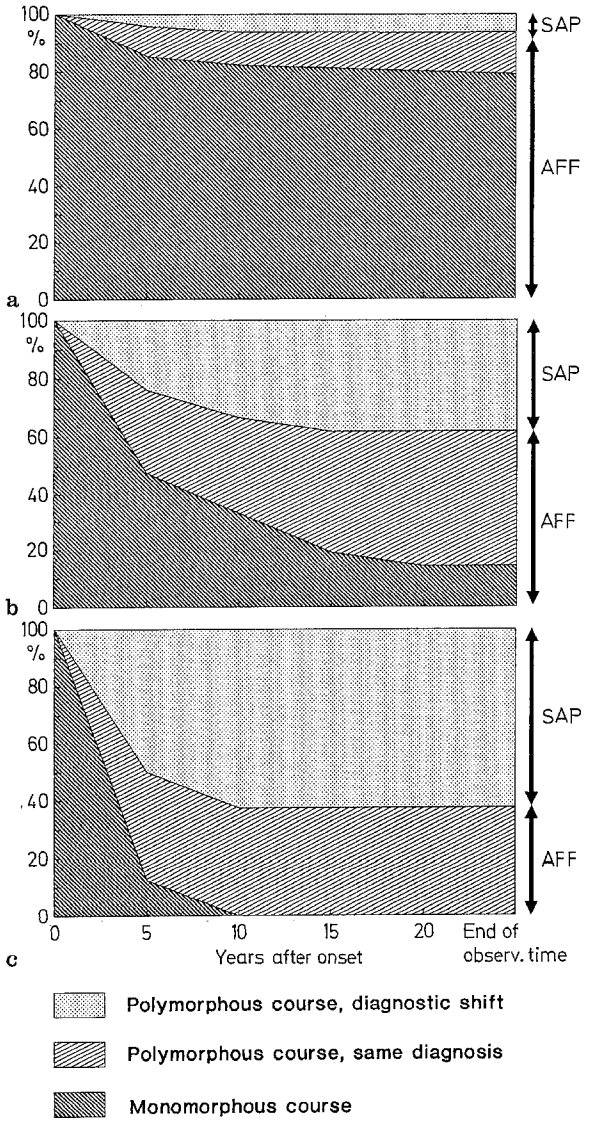

Fig. 4a–c. Affective disorders; **a** melancholic beginning ($n = 96$); **b** manic beginning ($n = 21$); **c** manic-depressive mixed beginning ($n = 8$). Longitudinal diagnosis: SAP = Schizoaffective disorder; AFF = affective disorder

phous course does not necessarily means an unstable diagnosis.

Schizophrenic Beginning. As Figs. 1 and 3 show, the highest diagnostic stability was found in patients with a schizophrenic initial episode: 90% of them remained schizophrenic during the whole course. Only 10% of them changed into schizoaffective disorders. Of a total of 695 episodes, only 59 (8.5%) were not pure schizophrenic episodes and only 22 (3.2%) had no schizophrenic symptoms at all (Table 3).

Affective Beginning. Melancholic initial episode: although 21% of the patients with a melancholic initial episode later changed into other types of episode, the initial diagnosis "affective disorder" remained stable in the great majority of cases (Fig. 4): Only 6% of the patients changed to schizoaffective disorder, while all other patients had a change to manic or manic-depressive mixed episodes and thus remained within the group of affective disorders. Of a total of 439 episodes, only 4 were schizophrenic and 19 schizoaffective; but 416 were affective episodes (Table 3).

Manic Beginning: 86% of the patients with a manic initial episode had a polymorphous course. 38% changed to schizoaffective disorders whilst 48% remained in the affective group because the shift was to other affective episodes, i.e. to melancholic or manic-depressive mixed episodes (Fig. 4). Of a total of 125 episodes, 25 were not pure affective but rather schizophrenic or schizoaffective episodes (Table 3).

Manic-depressive Beginning: none of the eight patients with a manic-depressive initial episode had a monomorphous course (Figs. 1 and 4). The stability of the longitudinal diagnosis was also relatively low: only three patients (37.5%) remained affective.

Schizoaffective Beginning. The majority of the patients with a schizodepressive initial episode (58%) had a monomorphous course, i.e. only schizodepressive episodes during the whole course (Fig. 5). In contrast, only 23% of the patients with a schizomanic initial episode had a monomorphous course. One half of the patients with a schizomanic-depressive mixed episode had a monomorphous course.

3.5 Classification of Disorders with Syndrome Shift

How can we classify disorders with different types of episodes during their coruse? To answer this question, the various patterns of course were divided into four categories:

type A: Pure schizophrenic course (only schizophrenic episodes during course), i.e. "pure schizophrenia";

type B: Pure affective course (only melancholic, manic or manic-melancholic mixed episodes during course), i.e. "pure affective disorder";

type C: Pure schizoaffective course (only schizodepressive, schizomanic or schizomanic-depressive mixed episodes during course), i.e. schizoaffective disorder with concurrent symptomatology;

type D: A mixture of schizophrenic and affective episodes and/or schizoaffective episodes.

For the comparison among the types, patients with only one episode (monophasic course) were excluded, because type D patients by definition have at least two episodes.

As shown in Table 5, the relevant differences as found on various validating dimensions are between type D and type A or between type D and type B, but not between type D and type C. In other words, patients with changes from affective to schizophrenic symptomatology and vice versa, or from affective to schizoaffective episodes, do not differ from patients suffering from schizo-

Table 4. Patients with different types of episodes in regard to the type of the initial episode ($n = 355$) (Abbreviations see Fig. 1)

Type of initial episode	Patients having at least once the following type of episode[a]						
	SCH	MEL	MAN	MDE	SDE	SMA	SMD
Schizophrenic ($n = 165$)	–	9 5.5%	5 3.0%	2 1.2%	7 4.2%	5 3.0%	3 1.8%
Melancholic ($n = 96$)	2 2.1%	–	14 14.6%	5 5.2%	5 5.2%	1 1.0%	1 1.0%
Manic ($n = 21$)	5 23.8%	9 42.9%	–	6 28.6%	1 1.0%	7 7.3%	1 1.0%
Manic-depressive mixed ($n = 8$)	1 12.5%	1 12.5%	4 50.0%	–	0	3 37.5%	4 50.0%
Schizodepressive ($n = 48$)	7 0.3%	11 22.9%	4 8.3%	1 2.1%	–	7 14.6%	6 12.5%
Schizomanic ($n = 13$)	3 23.1%	3 23.1%	4 30.8%	2 15.4%	3 23.1%	–	1 7.7%
Schizomanic-depressive mixed ($n = 4$)	0	1	0	1	1	1	–

[a] Without the type of the initial episode

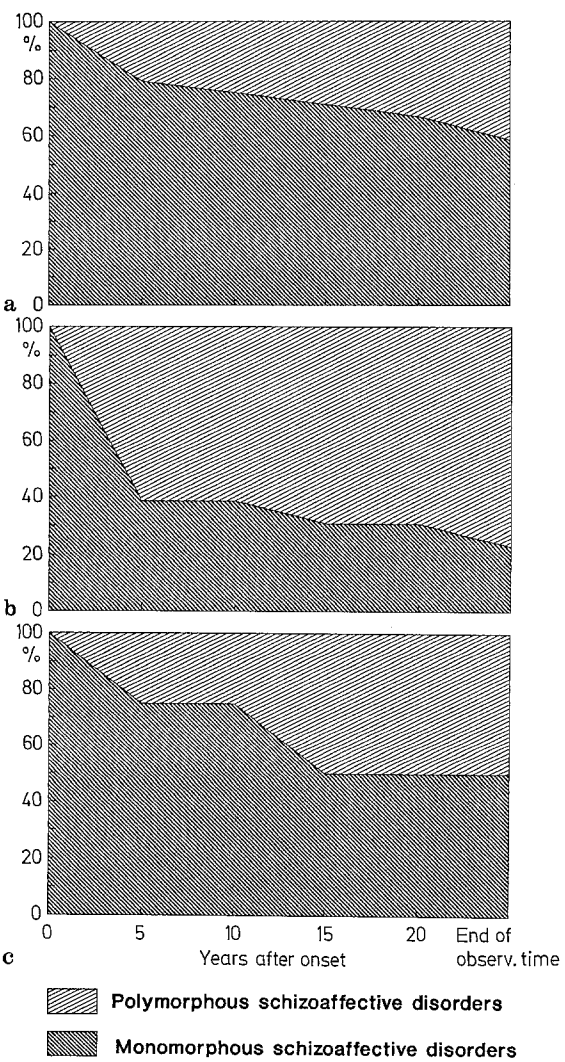

Fig. 5a–c. Concurrent schizoaffective disorders; **a** schizodepressive beginning ($n = 48$); **b** schizomanic beginning ($n = 13$); **c** schizomanic-depressive beginning ($n = 4$)

affective disorders with concurrent schizoaffective symptomatology.

4 Conclusions and Discussion

The stability of diagnosis over many years, or better over decades, is an important factor in the definition of homogeneous diagnostic groups. Homogeneity and reliable definition of a group is a conditio sine qua non for research on classification, biology, genetics, prognosis and treatment of mental disorders. The information yielded by the present investigation regarding long-term diagnostic stability is given below.

In patients diagnosed as having schizophrenia on the basis on the first episode, the probability that the initial diagnosis will not change during the course is very high. Ninety per cent of the patients remained schizophrenic in spite of a very long course (more than 25 years on average), so the diagnosis remained "schizophrenic disorder".

The majority of patients with a melancholic initial episode remained unipolar melancholics (79%). If there was a change of syndrome (i.e. to bipolar affective or to schizoaffective disorders), it usually occurred in the first 5 years after first manifestation. After this period, a syndrome shift was extremely rare. When patients with melancholic initial symptomatology did change to another type of episode, they usually changed to manic episodes (15%), seldom to a schizoaffective episode (6%). These findings are very similar to those of Angst et al. (1978) who reported a change into schizoaffective symptomatology in 6% of depressive and 7.5% of bipolar patients.

Patients with initial manic symptomatology had a very unstable course. Very seldom did patients remain unipolar manic or unipolar schizomanic without the manifestation of other types of episode. The course of

Table 5. Classification of disorders with syndrome shift

	Significance of differences		
	DvsA	DvsB	DvsC
Sociodemographic and premorbid features			
Sex distribution	*	*	–
Age at onset	–	**	–
Educational level	–	–	–
Occupational level at onset	**	–	–
Premorbid personality	**	**	–
Premorbid tendency toward social isolation	**	–	–
Stable heterosexual partnership before onset	**	*	–
Mental illness in the family	*	–	–
Social class at onset	*	–	–
Long-term outcome			
Global functioning (according to the Global Assessment Scale, GAS)	**	*	–
Disability (According to the Disability Assessment Schedule, WHO/DAS)	**	**	–

* $P < 0.005$; ** $P < 0.01$; – not significant

A = Only schizophrenic episodes during course (after exclusion of monophasic courses, $n = 131$)

B = Only affective episodes during course (melancholic and/or manic)

C = Only schizoaffective episodes during course (schizodepressive, schizomanic, schizomanic-depressive mixed, after exclusion of monophasic courses, $n = 31$)

D = Mixture of schizophrenic and affective episodes or combination of schizoaffective episodes with schizophrenic and/or affective episodes ($n = 60$)

patients with a manic-depressive mixed initial episode at the beginning of the illness was particularly unstable. Very soon after the first manifestation, they had a syndrome shift, such that after 10 years none of them remained in the initial category.

The course in patients with initial schizodepressive episodes was less stable than in those with initial melancholic episodes, but more stable than in those with initial manic episodes.

The findings of the present study, namely that disorders with a pure affective onset usually changed in schizoaffective episodes and vice versa, but that such a syndrome shift is very rare in pure schizophrenic episodes, are in agreement with the findings of other studies, such as those conducted by Winokur (1974) and Coryell and Winokur (1984).

The findings of this study demonstrate the desirability of including a longitudinal axis in the diagnostic systems of definite classification of mental disorders. They also give rise to some theoretical considerations regarding the existence of a psychotic continuum (Angst 1986, Häfner 1990, Crow 1991).

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