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# Two-year diagnostic stability and prognosis in acute psychotic episodes

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**Introduction.** The term acute psychosis represents a group of rapid-onset and recovery psychosis. The current diagnostic criteria are not uniform and represent a heterogeneous set of psychoses. Although their form of clinical presentation may be similar, their evolution and prognosis are very different. It is very important to detect the possible factors of chronicity in order to make an early intervention and thus to diminish the negative consequences of the disease.

**Methodology.** We conducted a 2 year prospective study in 48 patients diagnosed with acute psychosis in their first admission. Data was collected on the evolution and follow-up of the patient in the Mental Health Unit and the sociodemographic and clinical factors of the psychotic index episode that could predict a change in the diagnosis during the two years follow-up were analyzed.

**Results.** None of the sociodemographic or clinical variables studied could predict a change in the diagnosis, except for the presence of a control delusion during the index episode. The diagnosis of schizophreniform or not otherwise specified psychotic disorders predicts an evolution towards schizophrenia or affective psychosis while a brief or substance-induced psychotic episode has a better prognosis, with a tendency to maintain the same diagnosis in the 2 years of follow-up.

**Conclusion.** After 2 years of follow-up, an significant number of the patients initially diagnosed of acute psychosis evolved towards a diagnosis of schizophrenia or affective psychosis in a difficult-to-predict way.

**Key words:**
Psychotic disorders. Brief reactive psychosis. Schizophreniform disorders. Follow-up studies.

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## Estabilidad diagnóstica y pronóstico a 2 años de episodios psicóticos agudos

**Introducción.** El término psicosis aguda representa un grupo de psicosis de inicio y resolución rápida. Los criterios diagnósticos actuales adolecen de uniformidad, representando un conjunto heterogéneo de psicosis. Aunque la forma de presentación clínica puede ser similar, la evolución y el pronóstico pueden ser muy diferentes. La detección de posibles factores de riesgo de cronicidad es de especial importancia, pudiendo realizar una intervención precoz y así minimizar las consecuencias negativas de la enfermedad.

**Metodología.** Estudio prospectivo a 2 años de una muestra final de 48 pacientes diagnosticados de psicosis aguda en el ingreso. Se recoge información sobre la evolución y seguimiento del paciente en la Unidad de Salud Mental y analizan los factores sociodemográficos y clínicos del episodio psicótico índice, que puedan predecir un cambio en el diagnóstico durante el período de estudio.

**Resultados.** Ninguna de las variables sociodemográficas o clínicas estudiadas presenta capacidad de predecir un cambio en el diagnóstico, salvo la presencia de un delirio de control durante el episodio índice. El diagnóstico de trastorno esquizofreniforme o psicótico no especificado pronostica una evolución hacia esquizofrenia o psicosis afectiva, mientras el trastorno psicótico breve o inducido por sustancias presentan un mejor pronóstico, tendiendo a mantener el mismo diagnóstico a los 2 años.

**Conclusión.** A los 2 años, de una forma difícilmente predecible, una fracción importante de los pacientes diagnosticados inicialmente de psicosis aguda evoluciona hacia un diagnóstico de esquizofrenia o psicosis afectiva.

**Palabras clave:**
Trastornos psicóticos. Psicosis reactiva breve. Trastornos esquizofreniformes. Estudios de seguimiento.

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## INTRODUCTION

There is a group of psychoses whose onset and resolution orient towards a better prognosis than other types of

psychoses. This group of psychoses, at least initially, differs from schizophrenia and affective psychoses in both their symptoms and prognosis. However, there are no internationally agreed on diagnostic criteria (DSM-IV and ICD-10) that help in the identification and follow-up of these patients. In this sense, an acute psychotic episode may be the onset of an affective psychosis, schizophrenia or may even be maintained as subsequent well-defined acute psychotic episodes. Diagnostic stability of the psychosis has been analyzed in many studies.[1-4]

The importance of early interventions in psychotic disorders has been reflected in several studies.[5,6] In this sense, identification of the factors that may predict the possible evolution towards chronic psychosis is essential.

The purpose of this study is to describe the follow-up of a group of patients with acute psychosis, evaluate the diagnostic stability after two-years of evolution and identify if there are factors associated to a change in diagnosis.

## METHODS

### Sample

Patients who were admitted to the Psychiatric Acute Unit of the Hospital Lluís Alcanyís of Xátiva (Valencia) (Spain) during the years 1996-2002 due to an acute psychotic episode and who were diagnosed of brief psychosis, not otherwise specified psychosis and substance induced psychosis on discharge according to DSM-IV criteria. The psychotic episodes should also fulfill the following criteria: acute onset (less than 4 weeks), with or without precipitating factors and without having received neuroleptic treatment prior to admission. Exclusion criteria were: previous diagnosis of chronic psychosis, with the possibility of having been diagnosed previously of acute psychotic episodes and suspicion that the current episode had an organic origin (not substance-induced). In addition, a group of patients with schizophreniform episodes according to DSM-IV criteria who required admission during the same period were studied.

In the first study, the sample was totally made up of 58 patients who had been diagnosed of acute psychosis on discharge. Eight patients who did not belong to our area and who had required admission in our department as there were no available beds in the residence area were eliminated for follow-up. Thus, the sample for follow-up was 50 patients. Two cases (1 due to death and the other due to drop-out after hospital discharge) were lost. Finally, information was gathered on 48 patients, who made up the study sample.

### Procedure

Clinical and sociodemographic data were obtained on admission. These results were presented in a previous work[7]. The diagnosis was made based on clinical interviews with the patient and relatives during the admission. To do so, a Structured Interview for the Evaluation of Acute Psychotic Episodes (SIEAPE) was designed. This interview was used to collect information on both the clinical and sociodemographic level. The final diagnosis was conducted after a second evaluation, conducted by a panel of two psychiatrists, and consensus for the formulation of the diagnosis according to the DSM-IV criteria had to exist.

At 2 years of the hospital discharge, the evolution of each patient was evaluated. The information regarding the treatment and evolution after the hospital discharge was obtained with the Structured Follow-up Questionnaire (SFQ) designed by the investigators and filled out through the study of the clinical history and of the reference psychiatrist in the Mental Health Unit (MHU).

### Variables studied

The SFQ, in which information was collected on follow-up time in the MHU, treatment during this time (drugs, dosage and duration), duration of index episode, possible change of diagnosis (DSM-IV), presence of new psychotic episodes, stressful life events and drug usage during the follow-up period was filled out.

### Statistical analysis

A statistical study was performed that was aimed at analyzing the diagnostic evolution and the possible influence of certain variables in order to make a predictive prognosis model. The different study variables have been summarized with the corresponding descriptive statistics: measurements of central tendency (mean) and dispersion (standard deviation) for the quantitative variables; absolute and relative frequencies for the qualitative variables. A bivariate analysis was conducted, relating different characteristics of the psychotic index episode with the change of diagnosis during the follow-up. The contrasts of variables were made with the Chi squared test or Fisher's exact test, according to the application conditions.

Finally, the independent contribution of each variable with the change of diagnosis was studied through a multivariate logistic regression analysis. The prognostic capacity of the final model was also checked through the estimation of the area under the ROC curve. High values (close to 1) of this area indicate that we can trust the utility of these variables to predict a possible change of diagnosis in the future. All the statistical calculations were made with the STATA program, version 9.0.

## RESULTS

### Follow-up period variables

A total of 50% of the patients had remission of the psychotic index episode in less than 2-3 months while time to remission in 36%, took more than 6 months and some of them had no remission during the entire study time. In spite of the complete remission within a few months in half of them, 60.4% maintained the follow-up in the MHU for the 2 years of the study. A total of 74% of the patients received treatment with low or medium dose neuroleptics and 39.6% of the patients had at least one new psychotic episode during the next two years. Most (62.5%) did not report any type of life event during this time period (table 1).

**Table 1** Description of variables of the 2 year follow-up period

| | n (%) |
|---|---|
| **Follow-up after hospital discharge** | |
| During < 3 months | 10 (20.8%) |
| During 3-12 months | 6 (12.5%) |
| During > 12 months | 3 (6.25%) |
| During entire time | 29 (60.4%) |
| **Drug treatment** | |
| No treatment | 1 (2%) |
| Low dose neuroleptic* | 20 (40%) |
| Middle dose neuroleptic* | 17 (34%) |
| High dose neuroleptic* | 4 (8%) |
| Progressive reduction | 5 (10%) |
| Benzodiazepines | 1 (2%) |
| **Clinical remission** | |
| In less than 2-3 months | 25 (50%) |
| In more than 3 months | 5 (10%) |
| In more than 6 months | 9 (18%) |
| No clinical remission | 9 (18%) |
| **New acute psychotic episodes** | |
| No | 29 (60.4%) |
| Between 1 and 2 | 17 (35.4%) |
| Three or more | 2 (4.2%) |
| **Stressful life events** | |
| No | 30 (62.5%) |
| 1 | 10 (20.8%) |
| 2 or more | 8 (16.7%) |
| **Type of stressful life events** | |
| Work | 8 (16.7%) |
| Economic | 4 (8.2%) |
| Familial | 13 (26.5%) |
| Disease | 2 (4.1%) |
| **Drugs** | |
| Current use | 22 (39.3%) |
| Alcohol | 8 (14.3%) |
| Polytoxicomanía | 17 (30.4%) |

*Low dose: dose equivalent to less than 10 mg of haloperidol. Middle dose: dose equivalent to between 11 and 20 mg of haloperidol. High dose: dose equivalent to more than 20 mg of haloperidol.

### Change of diagnosis in the 2 years of follow-up

There was a change in diagnosis for 43.8% of the patients while 56.2% maintained their initial diagnosis of acute psychosis. Among those who experienced a change in diagnosis, 47.6% were diagnosed of schizophrenic disorder, 19% of schizoaffective disorder and 14% of bipolar disorder (table 2).

The patients with an initial diagnosis of schizophreniform disorder or not otherwise specified psychosis mostly experienced a change (57.1% and 58.3%, respectively) versus those diagnosed of brief psychotic disorder or drug-induced psychosis (35.7% and 12.5%, respectively). A total of 50% of the patients diagnosed of schizophreniform evolved to schizophrenia during the following 2 years. The rest of the patients with acute psychoses evolved in a more diverse way, and were diagnosed of chronic affective or psychotic disorders and of psychosis (table 2).

### Sociodemographic and clinical variables and change of diagnosis at two years of follow-up

No type of relationship between the sociodemographic variables studied (age, gender, civil status, level of studies and work situation) and change of diagnosis has been observed. Regarding age, no significant differences were found between the patients in whom the diagnosis did not change (mean 27.5 years; standard deviation [SD] = 9.2 years) and those in whom it did (mean 28.8 years; SD = 8.2 years) ($p = 0.62$).

Symptoms during the acute psychotic episode were not associated to a change in diagnosis at 2 years, at least significantly. However, it stands out that the presence of a control delusion shows an almost significant relationship with change in subsequent diagnosis ($p = 0.06$) compared to the other possible delusions. This situation occurs in less intensity with the existence of kinesthetic-body hallucinations ($p = 0.22$), withdrawal behavior ($p = 0.23$) and presence of mood characterized by fear and anxiety ($p = 0.13$) (table 3).

Life events do not seem to determine a change in diagnosis ($p = 0.78$). In addition, no relationship is found with the existence of awareness of disease during the acute psychotic episode ($p = 0.72$) or with the type of neuroleptic dosage used during the index episode and change in diagnosis at 2 years ($p = 0.91$).

A significant relationship ($p = 0.002$) has been observed between the subsequent presence of new acute psychotic episodes and change in the diagnosis during the follow-up. In this way, the greater the number of psychotic relapses present, the more likelihood of there being a change in diagnosis (24.1% of those who did not have new episodes compared to 70.6% and 100% of those who had 1-2 or 3 or more episodes, respectively).

**Table 2** Change of diagnosis at 2 years

| Initial diagnosis | Change of diagnosis n (%) | Diagnosis at 2 years | n (%) |
|---|---|---|---|
| Substance-induced psychotic disorder (8) | 1 (12.5%) | Paranoid schizophrenia disorder | 1 (12.5%) |
| Brief psychotic disorder (14) | 5 (35.7%) | Paranoid schizophrenia disorder | 1 (7.1%) |
| | | Schizoaffective disorder | 1 (7.1%) |
| | | Bipolar disorder | 1 (7.1%) |
| | | Delusional ideas disorder | 1 (7.1%) |
| | | Not otherwise specified psychotic disorder | 1 (7.1%) |
| Schizophreniform disorder (14) | 8 (57.1%) | Paranoid schizophrenia disorder | 4 (28.6%) |
| | | Disorganized schizophrenia disorder | 2 (14.3%) |
| | | Schizoaffective disorder | 1 (7.1%) |
| | | Undifferentiated schizophrenia disorder | 1 (7.1%) |
| Not otherwise specified psychotic disorder (12) | 7 (58.3%) | Substance-induced psychotic disorder | 1 (8.3%) |
| | | Schizoaffective disorder | 2 (16.6%) |
| | | Undifferentiated schizophrenia disorder | 1 (8.3%) |
| | | Bipolar disorder | 2 (16.6%) |
| | | Dissociative disorder | 1 (8.3%) |

### Profile of patients with change of diagnosis at 2 years

In the multivariate model, the variables that show an independent relationship with change of diagnosis are an initial diagnosis of schizophreniform disorder (odds ratio [OR] = 3.75; 95% confidence interval [CI] = 0.91 – 16.74; p = 0.079) or not otherwise specified psychotic disorder (OR = 3.76; 95% CI = 0.80 – 17.60; p = 0.093) and the presence of a control delusion during the index episode (OR = 4.18; 95% IC = 0.85 – 20.43; p = 0.077). The discrimination capacity of the model is moderate, with an area under the ROC curve of 0.73.

## DISCUSSION

### Sample

The sample size is small, a normal situation in this type of studies.[4,8] There is a predominance of men,[7] on the contrary to that observed in other works.[1,9] Loss to the study is low for the difficulties entailed in a two-year follow-up. Some studies of first psychotic episodes have found a treatment drop-out rate in the first year between 45%-60%.[10-12]

Even though complete remission of the index episode was observed at 2-3 months in half of the patients, 60.4% continued follow-up in the MHU for the entire follow-up period. This situation is initially explained by the percentage of patients (39.6%) who had a new psychotic relapse during this time. In this sense, Jäger made a follow-up between 3 to 7 years in 73 patients diagnosed of transient acute psychosis, obtaining 58% relapses.[8]

Most (74%) of the patients were treated with low or middle doses of neuroleptics during the follow-up compared to a lower percentage (34%) observed in other studies.[8]

### Evolution of acute psychosis diagnosis

Almost half of the patients have a change in diagnosis at 2 years of follow-up. Most evolved towards a diagnosis of chronic affective or psychotic disorder, the diagnosis of schizophrenia being the most frequently made. Those who were initially diagnosed of schizophreniform disorder or not otherwise specified psychosis suffered a change in diagnosis in more than half of the cases. Compared to this, the diagnosis of brief psychosis and above all of drug-induced psychosis maintained a more stable diagnosis.[13] However, Elhamaoui made a follow-up for two years on 47 patients with a first episode of brief psychosis, obtaining a change in diagnosis in 70%.[9]

### Sociodemographic, clinical variables and change in diagnosis at 2 years

No sociodemographic variable seems to have an influence on the presentation of a different evolution or prognosis. Suda et al. observed a difference in gender, so that it was mostly women who remained in the acute psychosis group, although the difference was not significant.[14] However, the results regarding gender are contradictory.[15-19]

No symptom in the psychotic index episode has been related with the evolution or subsequent change of diagnosis. Only the presence of an initial control delusion can be

**Table 3** Relationship between clinical variables and change of diagnosis at 2 years

| Variable | n | Patients with change of diagnosis n (%) | p |
|---|---|---|---|
| Delusion | | | |
| No | 1 | 1 (100%) | 0.44 |
| Yes | 47 | 20 (42.6%) | |
| Type of delusion | | | |
| Harm-damage | 40 | 16 (40%) | 0.22 |
| Self-reference | 31 | 14 (45.2%) | 0.79 |
| Control | 10 | 7 (70%) | 0.06 |
| Influence | 11 | 6 (54.6%) | 0.41 |
| Megalomaniac | 5 | 3 (60%) | 0.64 |
| Mystic-religious | 10 | 5 (50%) | 0.65 |
| Erotic | 2 | 1 (50%) | 1.0 |
| Filiation | 7 | 3 (42.9%) | 0.96 |
| Alteration of perception | | | 0.72 |
| No | 15 | 6 (40%) | |
| Yes | 33 | 15 (45.5%) | |
| Type of perception | | | |
| Auditory | 27 | 11 (40.7%) | 0.63 |
| Visuals | 7 | 2 (28.6%) | 0.44 |
| Olfatory | 1 | 1 (100%) | 0.44 |
| Kinesthetic-body | 7 | 5 (71.4%) | 0.22 |
| Derealization-depersonalization | 7 | 3 (42.9%) | 1.00 |
| Behavior disorder | | | |
| Yes | 48 | 21 (43.8%) | |
| Type of behavior | | | |
| Restlessness. hyperactivity | 33 | 15 (45.4%) | 0.72 |
| Aggressiveness | 14 | 4 (28.6%) | 0.17 |
| Disorganization | 20 | 9 (45%) | 0.88 |
| Withdrawal | 14 | 8 (57.1%) | 0.23 |
| Speech disorder | | | 0.63 |
| No | 21 | 10 (47.6%) | |
| Yes | 27 | 11 (40.7%) | |
| Type of disorder | | | |
| Verbosity | 11 | 4 (36.4%) | 0.57 |
| Digressive | 21 | 8 (38.1%) | 0.49 |
| Incoherence | 1 | 0 | 1.00 |
| Instinctive life disorder | | | 0.31 |
| No | 4 | 3 (75%) | |
| Yes | 44 | 18 (40.9%) | |
| Type of disorder | | | |
| Insomnia | 43 | 17 (39.5%) | 0.15 |
| Anorexia | 12 | 7 (58.3%) | 0.24 |
| Ideation or suicide attempt | 10 | 6 (60%) | 0.24 |
| Mood disorder | | | 1.0 |
| No | 1 | 0 | |
| Yes | 47 | 21 (44.7%) | |
| Type of mood | | | |
| Depressed | 16 | 7 (43.8%) | 1.00 |
| Manic | 12 | 4 (33.3%) | 0.40 |
| Irritability | 23 | 10 (43.5%) | 0.97 |
| Fear-anxiety | 26 | 14 (53.9%) | 0.13 |
| Awareness disorders | | | 0.23 |
| No | 23 | 8 (34.8) | |
| Yes | 25 | 13 (52%) | |
| Type of disorder | | | |
| Perplexity | 19 | 10 (52.6%) | 0.32 |
| Confusion | 14 | 8 (57.1%) | 0.23 |
| Disorientation -S-T and person | 4 | 3 (75%) | 0.31 |

mentioned as a predictor factor of diagnostic change. There is no consensus regarding the psychopathology existing during the psychotic episode and its prognosis, although there is a tendency to consider that the presence of negative symptoms is the most significant predictor factor.[18] In this sense, Jäger distinguished a group of patients with transient psychosis and depressive and negative symptoms during admission who were diagnosed of schizophrenia in the subsequent years.[8] In the study conducted by Suda et al., there were no differences in the severity and duration of the symptoms during the hospitalization, among the patients who developed schizophrenia and those who did not at 5 years.[14]

No significant psychopathological difference has been described between acute transient psychoses and other psychoses such as schizophrenia, schizoaffective and bipolar ones, except that the mood changes and delusions are more rapid and there is a greater presence of anxiety in the former.[20] Cuesta stated that the existence of manic thinking indicates a prognosis of a good response to neuroleptic treatment.[21] In this sense, the presence of affective disorders in the first psychotic episodes is related with a better response to treatment.[22] These findings could not be confirmed in our study.

The existence of awareness of disease during the acute psychotic episode does not influence the prognosis on the contrary to that indicated by some authors for whom awareness of disease is the best predictor of response to treatment.[23,24] Our study deals with patients with acute psychosis, who by definition have a short untreated psychosis duration (UPD), most of who most have awareness of disease and adherence to treatment on discharge.

The existence of psychotic relapses entails a change in the diagnosis that is proportional to their number. In this sense, Suda performed a 5-year follow-up in 25 patients diagnosed of acute transient psychosis, it standing out that those who evolved towards a schizophrenia had a greater number of psychotic relapses during the study period.[14] In a 5-year follow-up, Robinson obtained an 89% relapse rate.[17]

## CONCLUSIONS

At 2 years, almost half of the patients initially diagnosed of acute psychosis had evolved towards a diagnosis, mostly that of schizophrenia or affective psychoses.

The sociodemographic and clinical variables studied present low capacity to predict the change of diagnosis. Only the existence of an initial control delusion seems to be related with a subsequent evolution towards chronic psychosis.

Initial diagnoses of schizophreniform disorder (called schizophrenias of good prognosis) or not otherwise specified psychosis (combination of psychosis without defined criteria) predict a change in the diagnosis at 2 years, this being towards schizophrenia or affective psychosis in most of the cases. Compared to this, the diagnoses of brief psychotic disorder or drug-induced psychosis show greater stability, at least at 2 years. These results predict a better prognosis in those patient who present a precipitating factor of the psychotic episode, whether it was toxic or psychosocial stress induced.

Finally, the existence of new acute psychotic episodes increases the likelihood of receiving the chronic psychosis diagnosis.

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