

Factors Influencing Duration of Untreated Psychosis

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Abstract

Introduction: Schizophrenia is a chronic disabling disorder for most affected individuals. Despite historical pessimism about prognosis, more recent studies suggest that early intervention can improve outcome. The duration of untreated psychosis (DUP) is a potentially modifiable prognostic factor and understanding its relation to outcome could lead to improved therapeutic strategies and public health initiative. Relationship of DUP to outcome may indicate a neurodegenerative process and so have important implications for understanding the pathophysiology of schizophrenia.

Aim: To study the factors predicting influence of DUP on the short-term outcome in schizophrenia and to study the relationship of premorbid social adjustment on the DUP and outcome.

Materials and Methods: 100 consecutive patients diagnosed and admitted as inpatient schizophrenia in institute of mental health. Study variables include scales: Scale for assessment of positive symptoms, scale for assessment of negative symptoms, clinical global impression-schizophrenia scale, global assessment of functioning, were given and age criteria 18-45 years, drug naïve patients, and patients with a diagnosis of schizophrenia.

Results: A total of 100 patients were screened, evaluated, and entered into the study out of which 3 patients were excluded, one patient was found to be HIV positive and 2 patients were found missing from the ward. Hence, the total number of sample at baseline assessment was 97. At the end of 8 weeks follow-up, assessment was done for 63 patients who reported along with their caregivers. The remaining 34 patients who did not complete the follow-up were categorized as non-completers.

Conclusion: Longer DUP is associated with higher age at presentation, higher negative symptoms, and poor premorbid functioning. Improved patients have a shorter DUP and better premorbid functioning than unimproved patients.

Key words: Duration of untreated psychosis, Schizophrenia, Sociodemographic factors

INTRODUCTION

Outcome of schizophrenia has been repeatedly demonstrated to be “good” and “favorable,” which generally implies that most of the patients treated adequately are able to maintain a reasonable quality of life, remain free from distressing symptoms, can function at a moderate level, and live a life outside psychiatric institutions in the community.¹⁻⁵ In previous studies, duration of untreated psychosis (DUP) was found to be related to symptom-related domains of outcome such as psychotic relapse

and remission but not to other domains such as social functioning. In most of the studies, DUP has been defined as the time between onset of psychotic symptoms and the start of treatment with antipsychotic medication. Besides medication, frameworks for psychiatric intervention directed at the problems of patients with a recent onset psychosis also include psychosocial interventions. DUP is a particularly important prognostic factor because it can be reduced by enhancing early detection and treatment referral procedures. The concept of DUP attracted much interest because of its possible relationship to treatment outcome and implications for preventive efforts in schizophrenia.⁶ Many studies demonstrated a link between DUP and both short- and long-term outcome in schizophrenia, but some contested this claim.^{7,8} The relationship of DUP to outcome was strongest in the initial months of psychosis. The concept of a “limited window of opportunity” in the early course of illness, a critical period when putative deficit

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factors are at their peak and the intervention has maximum benefit, was put forth. Studies showed that outcome was significantly enhanced by more intensive treatment only if the DUP was less than 6 months.⁹ It was not known if this relation between DUP and treatment response would hold if the illness was untreated for many years.

Aim

The aims of this study were to study the factors predicting influence of DUP on the short-term outcome in schizophrenia and to study the relationship of premorbid social adjustment on the DUP and outcome.

MATERIALS AND METHODS

This prospective observational study was conducted in the Department of Psychiatry, Madras Medical College. A total of 100 patients admitted as inpatients fulfilling the ICD-10 criteria for schizophrenia and who were never treated were included in the study, age group was within 18-45 years and reliable informants. After complete description of the study, written informed consent was obtained from the participants. Exclusion criteria were patients under age of 18 years or above 45 years, and a history of head injury, evidence of psychotic symptoms precipitated by an organic cause; previous treatment for psychosis; and transient psychotic symptoms resulting from acute intoxication as defined by ICD-10. Data relating to date of onset of psychosis were collected from interviews with the patient and a close relative of the patient. We asked when the patient first experienced or when the family members first noticed psychotic symptoms a rating of onset was made only when there was a clear, unequivocal description from any source of symptoms meeting these criteria.

RESULTS

During our study period, 100 consecutive patients were screened, evaluated, and entered into the study, out of which 3 patients were excluded, one patient was found to be HIV positive and 2 patients were absconded, 97 patients were analyzed.

In the improved group, the DUP was 0.898 ± 0.5 (logDUP), the corresponding DUP in months being 7.92, and in the unimproved group, the DUP was 1.36 ± 0.5 (logDUP), the corresponding DUP in months was 22.78. The difference between the two groups was statistically significant (Table 1).

In the improved group, the premorbid social adjustment score was 25.78 ± 6.8 and the score in the unimproved group was 31.81 ± 2.5 . The difference between the two groups was statistically significant (Table 2).

In the improved group, 4.9% were treated with typical antipsychotic drugs, 78% with atypical drugs, 17.1% with electroconvulsive treatment (ECT) and drugs. In the unimproved group, 54.5% were treated with atypical drugs, 45.5% were treated with ECT and drugs. The differences between the two groups were statistically significant ($P = 0.039$) (Table 3).

DISCUSSION

There is a statistically significant difference between the improved and the unimproved groups on the DUP as the mean DUP for the improved groups is 7.92 months and 22.78 months for the unimproved group of patients. This finding is similar to other studies that shorter DUP is associated with good outcome and treatment response than those with a longer DUP in a study done by Philip *et al.* of drug schizophrenia patients.¹⁰

Influence of duration untraced of untreated psychosis on the short-term outcome of drug-free schizophrenia patients reported that patients with a short DUP have shown improvement at the end of 6 weeks following treatment. There have been contrasting reports that DUP has an influence on the outcome in the short term but not on the long term. Drake *et al.* in his study concluded that DUP's relationship to outcome is strongest in the initial months of psychosis and has implications for targeting early intervention.¹¹ The duration

Table 1: Comparison of duration of untreated psychoses

Variable	Mean±SD		t value	P value
	Improved N=41	Unimproved N=22		
LogDUP	0.898±0.5	1.35±0.5	3.41	<0.0001

DUP: Duration of untreated psychosis, SD: Standard deviation

Table 2: Comparison of premorbid functioning

Variable	Mean±SD		t value	P value
	Improved (N=41)	Unimproved (N=22)		
Premorbid social adjustment (total score)	25.78±6.8	31.81±2.5	3.54	<0.0001

SD: Standard deviation

Table 3: Comparison of mode of treatment

Mode of treatment	Improved (N=41)	Unimproved (N=22)	Total	P value
Typical drugs	2	0	2	0.039
Atypical	32	12	44	
ECT and drugs	7	10	17	
Total	41	22	63	

ECT: Electroconvulsive treatment

of hospitalization between two groups was not significant as more than 80% of the patients were hospitalized for <2 weeks. This finding is similar to the report of Haas *et al.* that there is no significant difference in terms of duration of hospitalization between the long and short DUP groups.¹² Regarding treatment between the two groups is statistically significant as 78% of the improved group were treated with atypical antipsychotics and 54.5% among the unimproved group with atypical. This difference could be explained by the fact that patients with shorter DUP would have had a better response to treatment as described by Perkins *et al.*¹³ This result has to be interpreted with caution as the type of drugs, dosage, and adequacy of dose was not included in our study. Few studies differ as Barnes *et al.* found that there was little evidence of any association between DUP and the development of resistance to initial drug treatment.⁸ In our study, the premorbid social adjustment score is statistically significant between the improved and unimproved groups, indicating that poor premorbid functioning is associated with poor improvement. This finding is similar to the reports of Verdoux *et al.* that premorbid functioning is an important predictor of outcome, again the premorbid social adjustment scale used in this study assesses premorbid functioning in social and school activities, for which 11.34% of the sample in our study were uneducated making it difficult to assess in these group of patients.¹⁴ To find the relationship of confounding factors associated with DUP and outcome, a partial correlation was done controlling for the confounding factors such as age, age at onset of illness, symptom domains of psychotic, disorganized and negativism, and premorbid functioning. The correlation found that DUP is not statistically significant after controlling the confounding factors. This finding that DUP is not an independent predictor of outcome is in contrary to most of the studies that reported DUP to be significant predictor of outcome after controlling for the confounding factors. As premorbid functioning has shown a statistically significant correlation with improvement at 8 weeks, we did a partial correlation controlling for the confounding factors and found that premorbid functioning is not statistically significant. This finding is similar to studies that report premorbid functioning is not a strong predictor of outcome and the observed association between DUP and outcome was not explained by premorbid adjustment.

CONCLUSION

The findings from this study suggest that a longer DUP is associated with poor premorbid functioning, but the

association is not significant after the confounding factors were controlled and statistically significant difference between the improved and the unimproved groups by the mode of treatment was observed from the study. This finding concludes that DUP is not an independent predictor of outcome as stated in literature. It was conceivable that the reported better outcome for schizophrenia in India is unlikely to be because of shorter DUP. However, instituting treatment earlier gives further advantage and can make the outcome in our people even brighter.

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