

Correlates of Suicide-Related Ideations and Attempts in Patients with Acute and Transient Psychotic Disorder

Ravi Philip Rajkumar¹

Abstract

Introduction: Acute and transient psychotic disorder (ATPD) is a brief, self-limiting psychiatric disorder commonly seen in developing countries. This condition is associated with an elevated risk of suicide, but data on this association are lacking in developing countries. **Methodology:** Consecutive outpatients with a diagnosis ATPD as per *ICD-10* criteria (n=29) were recruited over a period of six months (February–July 2014) and retrospectively assessed for suicide-related ideations and attempts and their correlates both during and in between episodes of their illness. **Results:** A total of 16 patients (55.17%) experienced suicide-related ideations, which occurred during a psychotic episode in 14 patients. Six patients (20.69%) made suicide attempts. A later age of onset was significantly associated with suicidality (p=0.04), as was a family history of depression or related ("spectrum") conditions (p<0.01). A relationship with higher educational status, reported in an earlier study, was not replicated in our sample. **Conclusions:** Suicide-related ideation and suicide attempts are common in ATPD, and may be linked to a later onset and a genetic loading for depression-related conditions.

Key Words: Psychosis, Suicide, Genetics

Introduction

Acute and transient psychotic disorder (ATPD) is a psychiatric disorder with a distinct clinical profile characterized by a female preponderance, an acute or abrupt onset of psychotic symptoms, a short duration of illness and a good response to treatment. ATPD is recurrent in approximately half of patients, but is not associated with any persistent deficits (1, 2). Though it shares some clinical features with bipolar affective disorder—such as an episodic course and the presence of affective symptoms during episodes—it is

associated with fewer recurrences and less disability than bipolar disorder (3). Similarly, though its symptoms overlap with those of schizophrenia, ATPD is not associated with the chronicity or poor functional outcomes associated with that condition (4).

Though the relationship between ATPD and suicide has not been systematically examined, a five-year follow-up study found that the rate of suicidal behavior in ATPD was 35.7%, comparable to the rates observed in schizophrenia and bipolar disorder (5). A register-based study extended these findings by demonstrating that suicide was the major cause of premature mortality in patients with ATPD, with a standardized mortality rate of 30.9% for suicide (6, 7). However, there are no studies on suicidality in ATPD in patients from developing countries, such as India, where this disorder is common. This paper describes the results of a pilot study aimed at addressing this issue by examining the prevalence and correlates of suicide-related ideations and attempts in patients with ATPD being followed up at an out-patient clinic for psychotic disorders.

¹Department of Psychiatry, Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER), India

Address for correspondence: Dr. Ravi Philip Rajkumar, Associate Professor, Department of Psychiatry, Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER), Dhanvantari Nagar, Pondicherry 605 006, India
Phone: 0091413 2296402 (O), 0091 9884713673 (cell);
E-mail: ravi.psych@gmail.com

Submitted: January 5, 2015; Revised: March 6, 2015;
Accepted: May 22, 2015

Clinical Implications

This study is the first to identify potential variables related to suicidality in acute and transient psychotic disorder (ATPD) in a developing country. Further studies with a prospective design, examining more facets of psychopathology and including comparisons with schizophrenia and affective disorders, may shed more light on the consistency and strength of these associations.

The most significant variable related to suicidality in our sample was age at onset, with a later onset linked to higher rates of suicidality; this association seemed to be stronger in women than in men. This is unlike schizophrenia and bipolar disorder, where an earlier age of onset has been associated with suicidal behavior in some studies. The reason for this difference is unknown, though it further underlines the distinctive clinical profile of ATPD.

A trend was found for a link between a family history of alcoholism and suicidality, which was true both for patients with suicidality as a whole and for suicide attempters. Alcoholism is a condition with known genetic links to depression, and it is possible that this genetic vulnerability may have increased the risk of suicidal behavior in patients experiencing an acute psychotic episode. Alternately, early life trauma and stress associated with the presence of an alcoholic parent may have left these patients vulnerable to suicide. This association needs to be verified in a larger sample as our study may have been underpowered to detect a significant difference.

Methodology

All patients with a diagnosis of ATPD according to the *International Classification of Diseases—Diagnostic Criteria for Research (ICD-10-DCR)* criteria following up at the psychotic disorders outpatient clinic of a tertiary care hospital for at least 2 months were screened for inclusion in the study. Patients whose index diagnosis of ATPD was revised to another disorder, such as schizophrenia or bipolar disorder, were excluded, as were those with intellectual impairment. Informed consent was obtained from patients in the presence of their caregivers who accompanied them to the clinic. Information on the onset and course of the illness, associated demographic and clinical variables, family histories of mental illness or suicide, and the presence of associated suicide-related ideations and suicide attempts, was obtained from all available sources: patients themselves, their family members, outpatient records. All clinical interviews were carried out by the author. Recruitment was carried out over a period of six months (February–July 2014). Suicide-related ideations and suicide attempts were identified and categorized based on the revised nomenclature proposed by Silverman et al. (8, 9). This study was approved by the Institute's Scientific Advisory and Ethics Committees.

Patients were divided into two groups based on whether they had ever experienced suicide-related ideation or made suicidal attempts in the course of the illness. Non-suicidal patients were compared to those with any ideation or attempt, as well as with attempters alone. All statistical tests were two-tailed, and a value of $p < 0.05$ was considered significant.

Results

A total of 29 patients—10 men and 19 women—were included in the study. The demographic and clinical characteristics of these patients are summarized in Table 1.

Women were more likely than men to be married (16/19 women vs. 3/10 men; $p = 0.011$, Fisher's exact test), but there were no other significant gender differences. No patient reported suicide-related ideations or suicide attempts prior to the onset of ATPD.

The mean age at onset of ATPD was 31.14 ± 10.68 years (range, 14 to 55). Patients had been followed up for a mean of 37.93 months (range, 2 months to 14 years) and had experienced an average of 2.03 episodes in the course of their illness (range 1–4). Onset was abrupt (<48 hours) in 13 patients and acute (2 days to 2 weeks) in 16 patients.

The most common subtype of ATPD in these patients was “Other acute and transient psychotic disorder” (ICD-10 code F23.8, 11 patients) followed by “Other acute predominantly delusional psychotic disorder” (F23.3, 8 patients), “Acute schizophrenia-like psychosis” (F23.2, 5 patients) and “Acute polymorphic psychotic disorder” (F23.0, 4 patients). Only one patient was diagnosed with “Acute polymorphic psychotic disorder with symptoms of schizophrenia” (F23.1). A preceding stressor was reported by 12 patients (11 women and 1 man); this difference was statistically significant ($p = 0.019$, Fisher's exact test). Reproductive life events, such as childbirth, infertility, and induced abortion were linked to the onset of an episode in 4 women.

A family history of psychotic disorder was reported by 10 patients, 2 of whom were a mother-son pair who both

Table 1 Characteristics of the Study Sample

Variable*	Total Sample (n=29)	Women (n=19)	Men (n=10)	Significance
Mean age (years)	34.8±10.4 (15–56)	37.3±10.8 (15–56)	29.9±7.8 (18–43)	p=NS [†]
Marital status				
Single	9	2	7	p=0.011 [‡]
Married	19	16	3	
Separated	1	1	-	
Years of formal education	10.21±3.84 (5–18)	9.42±3.82 (5–18)	11.7±3.59 (5–18)	p=NS [§]
Age at onset of ATPD (years)	31.1±10.7 (14–55)	32.9±11.6 (14–55)	27.8±8.1 (16–40)	p=NS [†]
Number of episodes	2 (1–4)	2 (1–4)	2 (1–4)	p=NS [§]
Subtype of ATPD				
F23.0	4	4	-	p=NS [‡]
F23.1	1	1	-	
F23.2	5	3	2	
F23.3	8	3	5	
F23.8	11	8	3	
Type of onset				
Abrupt	13	10	3	p=NS [‡]
Acute	16	9	7	
Presence of a precipitating stressor				
Yes	12	11	1	p=0.019 [‡]
No	17	8	9	
Family history of psychotic disorder	10	6	4	p=NS
Family history of other disorders				
Depression	1	0	1	p=NS [‡]
Alcoholism	4	1	3	
Suicide attempt	2	1	1	
Total	7	2	5	

ATPD=acute and transient psychotic disorder. *All values are given as mean (SD), median (range), or frequency (percentage). [†]Independent samples t-test. [‡]Fisher's exact test. [§]Mann-Whitney U test. ^{||}Chi-square test.

had recurrent ATPD. Other family histories documented in first-degree relatives included depression (1 patient), alcoholism (4 patients) and suicide attempts (2 patients).

A total of 16 patients reported suicide-related ideations or attempts at some point in the course of their illness. To exclude phenomena that might not be directly related to ATPD, the timing of these phenomena—during or in between episodes—was also recorded. The majority of patients (14 of 16) had suicide-related ideations or attempts related to active episodes; in the remaining 2 patients, one made a suicide attempt in the context of a depressive episode and marital discord, and another experienced suicide-related ideations secondary to severe drug-induced Parkinsonism,

which resolved once her antipsychotic dosage was reduced. Suicide-related ideations were equally common in women and men (11/19 vs. 5/10 men; p=ns). Though the percentage of attempts was slightly higher in men than in women (3/10; 30% vs. 3/19; 15.79%), this was not statistically significant.

Of the 16 patients with any suicide-related ideations or behavior, 6 had made a suicide attempt; the remainder only reported suicide-related ideations, which were persistent and associated with a clear plan in one case. Only one patient made attempts in two episodes; on both occasions, these were medication overdoses in the context of threatening hallucinatory voices.

When these 16 patients were compared to the 13 who had

Table 2 Comparison of Patients with ATPD with (N=16) and Without (N=13) Suicidality

Variable*	Patients with ATPD with Suicidality (n=16)	Patients with ATPD without Suicidality (n=13)	Significance
Age at onset (years)	34.8±10.3 (21–55)	26.7±9.8 (14–42)	t=2.15, p=0.041 [†]
Duration of index episode (days)	30 (7–60)	21 (7–60)	p=NS [‡]
Number of episodes	2 (1–4)	2 (1–4)	p=NS [‡]
Type of onset			
Abrupt	6	7	p=NS [§]
Acute	10	6	
Presence of a precipitating stressor			
Yes	6	6	p=NS [§]
No	10	7	
Presence of first-rank symptoms of schizophrenia	5	1	p=NS
Presence of violence or aggression during an episode	5	3	p=NS
Family history of psychotic disorder	5	5	p=NS [§]
Family history of alcoholism	4	-	p=NS
Family history of depressive spectrum disorders [¶]	7	0	p=0.008

ATPD=acute and transient psychotic disorder. *All values are given as mean (SD), median (range), or frequency (percentage). [†]Independent samples t-test. [‡]Mann-Whitney U test. [§]Chi-square test. ^{||}Fisher's exact test. [¶]Alcoholism, depression or suicide attempts.

never experienced suicide-related ideations or made suicide attempts, they had a later age at onset of ATPD (34.8±10.3 vs. 26.7±9.8 years, t=-2.15, p=0.04). They were also somewhat more likely to have a family history of alcoholism (4/16 vs. none of 13) though this was not statistically significant. However, when pooled family histories of depression, alcoholism, and suicide attempts were compared, these were significantly more common in the suicidal group (7/16 vs. none of 13; p=0.008, Fisher's exact test). No other demographic or clinical variables, including the subtype of ATPD, the mode of onset of symptoms, or the presence of a triggering stressor, were significantly associated with suicidality (see Table 2).

On excluding the two patients with suicide-related ideations or attempts outside episodes, the association with age at onset failed to reach significance (mean 33.4±10.2 vs. 26.7±9.8 years; t=-1.73, p=0.09), and the association with a family history of alcoholism remained a nonsignificant trend. However, the association with depressive spectrum conditions increased in significance (p=0.006, Fisher's exact test).

When patients with suicide attempts alone were considered, no association with age was found. These patients were somewhat more likely to have first-rank symptoms of schizophrenia during an episode and to have a family history of alcoholism, but these differences were significant only at a trend level.

When examining gender-specific variables related to suicide-related ideations and attempts, a later age at onset remained significantly associated with these phenomena in women (median 38 vs. 24 years; Mann-Whitney U1=19.5, U2=68.5, p=0.047) as was a family history of depressive spectrum conditions (5/11 vs. none of 8; p=0.045, Fisher's exact test). No specific variables associated with suicide-related ideations or attempts could be identified in men, though the numbers in each group were small (5 with and 5 without suicidality).

Discussion

Suicide-related ideations were common in patients with acute and transient psychotic disorder, and were observed at some point in the course of the illness in 16 (55.17%) patients. However, overt suicidal attempts were less common, though they still occurred in a substantial minority (6/29, 20.69%) of patients. In contrast, a study of 42 German patients found lower rates of suicidal ideas and attempts during an initial episode (26.1%), but higher rates of suicide attempts (35.7%) over the entire course of the illness (5). The latter difference may be explained by the longer duration of follow-up in that study (mean 8.2 years, as opposed to 3.16 years in the current study). However, we did not find an association between the duration of follow-up and suicide-related ideations or behavior in our patients (mean 32.69 months vs.

44.38 months in nonsuicidal patients; $p=ns$, Mann-Whitney U test).

The majority of suicide-related ideations and attempts (14/16, 87.5%) occurred during a psychotic episode. This is consistent with the earlier observation that suicidality in these patients “seems to be associated with the dramatic psychotic symptomatology during the acute episode” (5). Earlier reports also suggest that such symptoms are associated with self-injurious behavior, which may take bizarre forms in some cases (10).

The most significant variable related to suicidality in our sample was age at onset, with a later onset linked to higher rates of suicidality; this association seemed to be stronger in women than in men. This is unlike schizophrenia and bipolar disorder, where an earlier age of onset has been associated with suicidal behavior in some studies (11, 12). The reason for this difference is unknown, though it further underlines the distinctive clinical profile of ATPD.

A trend was found for a link between a family history of alcoholism and suicidality, which was true both for patients with suicidality as a whole and for suicide attempters. Alcoholism is a condition with known genetic links to depression (13), and it is possible that this genetic vulnerability may have increased the risk of suicidal behavior in patients experiencing an acute psychotic episode. Alternately, early life trauma and stress associated with the presence of an alcoholic parent (14) may have left these patients vulnerable to suicide. This association needs to be verified in a larger sample as our study may have been underpowered to detect a significant difference.

When family histories of alcoholism, depression and suicide attempts in first-degree relatives were pooled together, they were a significant predictor of suicidality. This association remained significant even when excluding patients with suicidality unrelated to psychotic symptoms and in the subgroup of women with suicidality. These conditions were linked together on theoretical and pragmatic grounds. Alcoholism and depression are both considered part of the “depressive spectrum” (13). Though completed suicide has not been formally described elsewhere as part of this spectrum, it also shares genetic links with depression (15), and many completed suicides in our population are due to undiagnosed or untreated depression (16). Moreover, we have found this cluster useful in defining depression-related psychopathology in an earlier, unrelated study (17), and a link between suicide-related behavior and the depressive spectrum has also been noted by the originators of this concept (18).

Though the small numbers involved precluded a meaningful comparison, first-rank symptoms of schizophrenia were more common in suicide attempters

at a trend level; these symptoms were more common in the suicidal group as a whole (5/16 vs. 1/13), but this failed to reach statistical significance. In all three attempters with these symptoms, suicide attempts were related to third-person auditory hallucinations of a commenting nature, from which patients wished to escape; similarly, the one patient who made attempts in two separate episodes also reported distressing second-person auditory hallucinations. Active hallucinations are linked to suicide in schizophrenia (19), though this may hold good only in patients with other risk factors (20). Whether this is true of ATPD requires further study in larger samples.

No other demographic or clinical variables were significantly associated with suicidality; this is in contrast to an earlier study which found that a higher educational status predicted suicidal behavior. This difference may result from the manner in which education was categorized in the two studies; the earlier study used four categories, while we used the number of years of formal education as a continuous measure. Alternately, it may reflect the relatively lower education received by patients in our study, who were mostly drawn from farming or working-class backgrounds.

In summary, a later age at onset and a family loading for depression-related conditions appear to be risk factors for suicidal ideation or behavior in patients with acute and transient psychotic disorder. The impact of other specific factors, such as a family history of alcoholism or the presence of first-rank symptoms of schizophrenia, was suggested by the study results but requires confirmation in larger samples.

Our results are subject to certain limitations. Suicide-related ideations and attempts were assessed as simple categorical (yes/no) outcomes, rather than using a structured instrument. The small sample size, particularly the small number of males, meant that the study may have been underpowered to identify other potentially important risk factors. The retrospective study design was open to recall bias. The effect of specific domains of psychopathology, such as delusions that are linked with suicide in other psychoses, could not be examined. We could not obtain information on depressive symptoms, which are linked to suicidality in first-episode psychosis (21). Finally, we did not assess the role of premorbid personality dimensions, such as conscientiousness, which was a predictor of suicidality in an earlier study (5).

Despite these shortcomings, this study is the first to identify potential variables related to suicidality in ATPD in a developing country. Further studies with a prospective design, examining more facets of psychopathology and including comparisons with schizophrenia and affective disorders, may shed more light on the consistency and strength of these associations.

References

- Marneros A. Beyond the Kraepelinian dichotomy: acute and transient psychotic disorders and the necessity for clinical differentiation. *Br J Psychiatry* 2006;189:1-2.
- Malhotra S. Acute and transient psychosis: a paradigmatic approach. *Indian J Psychiatry* 2007;49(4):233-243.
- Marneros A, Pillmann F, Haring A, Balzuweit S, Bloink R. The relation of "acute and transient psychotic disorder" (ICD-10 F23) to bipolar schizoaffective disorder. *J Psychiatr Res* 2002;36(3):165-171.
- Marneros A, Pillmann F, Haring A, Balzuweit S, Bloink R. What is schizophrenic in acute and transient psychotic disorder? *Schizophr Bull* 2003;29(2):311-323.
- Pillmann F, Balzuweit S, Haring A, Bloink R, Marneros A. Suicidal behavior in acute and transient psychotic disorders. *Psychiatry Res* 2003;117(3):199-209.
- Castagnini AC, Bertelsen A. Mortality and causes of death of acute and transient psychotic disorders. *Soc Psychiatry Psychiatr Epidemiol* 2011;46(10):1013-1017.
- Castagnini A, Foldager L, Bertelsen A. Excess mortality of acute and transient psychotic disorders. *Acta Psychiatr Scand* 2013;128(5):370-375.
- Silverman MM, Berman AL, Sanddal ND, O'Carroll P, Joiner TE. Rebuilding the tower of Babel: a revised nomenclature for the study of suicide and suicidal behaviors. Part 1: background, rationale and methodology. *Suicide Life Threat Behav* 2007;37(3):248-263.
- Silverman MM, Berman AL, Sanddal ND, O'Carroll P, Joiner TE. Rebuilding the tower of Babel: a revised nomenclature for the study of suicide and suicidal behaviors. Part 2: suicide-related ideations, communications and behaviors. *Suicide Life Threat Behav* 2007;37(3):264-277.
- Harish T, Chawan N, Rajkumar RP, Chaturvedi SK. Bilateral self-enucleation in acute transient psychotic disorder: the influence of sociocultural factors on psychopathology. *Compr Psychiatry* 2012;53(5):576-578.
- Mork E, Walby FA, Harkavy-Friedman JM, Barrett EA, Steen NE, Lorentzen S, et al. Clinical characteristics in schizophrenia patients with or without suicide attempts and non-suicidal self-harm—a cross-sectional study. *BMC Psychiatry* 2013;13:255.
- Parmentier C, Etain B, Yon L, Misson H, Mathieu F, Lajnef M, et al. Clinical and dimensional characteristics of euthymic bipolar patients with or without suicidal behavior. *Eur Psychiatry* 2012;27(8):570-576.
- Kasperowicz-Dabrowiecka A, Rybakowski JK. Beyond the Winokur concept of depression spectrum disease: which types of alcoholism are related to primary affective illness? *J Affect Disord* 2001;63(1-3):133-138.
- Dube SR, Anda RF, Felitti VJ, Croft JB, Edwards VJ, Giles WH. Growing up with parental alcohol abuse: exposure to childhood abuse, neglect, and household dysfunction. *Child Abuse Negl* 2001;25(12):1627-1640.
- Brent DA, Melhem N. Familial transmission of suicidal behavior. *Psychiatr Clin North Am* 2008;31(2):157-177.
- Vijaykumar L. Suicide and its prevention: the urgent need in India. *Indian J Psychiatry* 2007;49(2):81-84.
- Rajkumar RP, Bharadwaj B. Dhat syndrome: evidence for a depressive spectrum subtype. *Asian J Psychiatr* 2014;9:57-60.
- Winokur G, Coryell W. Familial subtypes of unipolar depression: a prospective study of familial pure depressive disease compared to depression spectrum disease. *Biol Psychiatry* 1992;32(11):1012-1018.
- Hor K, Taylor M. Suicide and schizophrenia: a systematic review of rates and risk factors. *J Psychopharmacol* 2010;24(4 Suppl):81-90.
- Harkavy-Friedman JM, Kimhy D, Nelson EA, Venarde DF, Malaspina D, Mann JJ. Suicide attempts in schizophrenia: the role of command auditory hallucinations for suicide. *J Clin Psychiatry* 2003;64(8):871-874.
- Uptegrove R, Birchwood M, Ross K, Brunett K, McCollum R, Jones L. The evolution of depression and suicidality in first-episode psychosis. *Acta Psychiatr Scand* 2010;122(3):211-218.