

Bipolar Patients Sing More in Singapore: Singing as a Signal for Mania in Psychotic Patients

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Abstract

Introduction: Singing in psychotic patients has received little attention in the psychiatric literature. In this preliminary study, we test the hypothesis that manic patients sing more than schizophrenic patients (SPs). **Materials and Methods:** Manic patients and SP inpatients and outpatients were interviewed using a semi-structured questionnaire which included questions on musical interests, and how much they felt like singing prior to their most recent admission to hospital. They were asked if they were willing to sing during the interview and responses were observed. **Results:** Of the 69 manic patients and 68 SPs interviewed, manic patients were more likely to report singing than SPs (76% vs 24%) prior to their most recent admission to hospital. There was a trend for manic inpatients to be more willing to sing during the interview. **Conclusion:** Increased singing is suggested as a useful symptom and sign in patients suffering from a manic illness.

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Introduction

There are many symptoms and signs associated with the mood elevation experienced by bipolar patients, but one observed as distinctive by us in Singapore is a tendency for patients experiencing manic mood states to sing more, both spontaneously and when invited. The potential utility of this feature led to an increase in singing being included in the Sydney-developed Mood Swings Survey¹ or Mood Swings Questionnaire.² While the Young Mania Rating Scale (YMRS)³ and the Bech-Rafaelsen Mania Scale⁴ also include a singing item (loading to mood elevation), such a symptom is not included in any formal diagnostic measure such as the Diagnostic and Statistical Manual of Mental Disorders (DSM) or the International Classification of Mental and Behavioural Disorders (ICD) classificatory manuals.

It is well recognised that differentiating mania and schizophrenia can be difficult, both cross-sectionally

during acute episodes and longitudinally. We therefore pursued a simple and singular inquiry—does singing during an episode weigh a diagnosis of bipolar disorder above one of schizophrenia? We therefore studied a sample of inpatients and outpatients with psychosis to assess whether manic patients were more likely to sing than schizophrenic patients (SPs) during relapses of their psychotic illnesses. Additionally, we hypothesised that manic patients would be more likely than SPs to sing when invited to do so—but that any such over-representation would no longer hold when the manic patients' mood was no longer elevated.

Materials and Methods

Consecutively admitted psychotic patients as well as outpatients (aged 18 to 65 years) who fulfilled DSM-IV⁵ criteria for mania or for schizophrenia were recruited into the study after receiving study information and providing

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written consent. We did not include patients with a diagnosis of schizoaffective disorder, or those in the depressive phase of bipolar disorder, with organic brain disorders or those with comorbid alcohol or substance abuse. The study was approved by the hospital's ethics committee. Diagnoses were made by the first author who also inquired into a range of affective symptoms derived from the YMRS³ and the Schedule of Affective Disorders and Schizophrenia-Change Version Mania Rating Scale (SADS-C MRS).⁶

Another researcher, blinded to the diagnoses, asked the patients about their singing. For instance, they were asked to rate whether they had been singing “less”, the “same”, “slightly more”, “much more” or “very much more” prior to or during their hospital admission. They were also asked whether they felt like singing at the time of the interview and, if so, “would you like to sing now”. The latter invitation was made in a non-confrontational manner, and allowed patients to decline without feeling obligated. Those patients agreeing were allowed to sing whatever song they wished, and to stop when they liked. Neither patients nor ward staff were informed about the study hypotheses so as to avoid biased replies. Patients were not provided with any musical accompaniment, pre-recorded music or background music from the radio or television, nor were they given any music score or lyrics.

Statistical Analyses

In order to demonstrate a 20% difference between the 2 groups at 80% power, and using a 5% 2-sided test for a statistically significant result, we needed to recruit 70 subjects in each group. All analyses were performed using IBM SPSS 20.0. Chi-square or Fisher's exact tests were used to compare manic patients and SPs on categorical demographic variables, any prior musical training or musical instrument experience, having sung in choirs or small groups, previous karaoke singing experience or previous concert performances. We used the 2 sample t-test to compare age when normality and homogeneity assumptions were satisfied, otherwise the non-parametric Mann-Whitney U test was used. Statistical significance was set at $P < 0.05$.

Results

Our sample comprised 69 manic patients and 68 SPs of whom 46 manic patients (67%) and 43 SPs (63%) were outpatients, with data and comparative analyses listed in Table 1. There were no significant differences in age, gender, racial group or educational levels, but the manic patients were more likely to be married.

The manic patients and SPs did not differ in rates of music training, in playing instruments or in having participated in concerts, but the manic patients were more likely to have

Table 1. Comparisons Between Manic Patients and Schizophrenic Patients

	Manic Patients (n = 69) (%)	SP (n = 68) (%)	P Value	OR (95% CI)
Hospital Status				
Inpatients	34.8	36.8	0.67	-
Outpatients	65.2	63.2		
Gender				
Male	40.7	59.3	0.06	-
Female	57.7	42.3		
Race				
Chinese	81.2	83.8	0.98	-
Malay	10.1	8.8		
Indian	7.2	5.9		
Other	1.5	1.5		
Educational Level				
Nil/Primary school	30.4	22.1	0.22	-
Secondary school	47.8	63.2		
Tertiary	21.8	14.7		
Marital Status				
Single	43.5	57.4	0.05	2.3 (1.1 to 4.6)
Married	52.2	32.3		
Divorced/ Separated	4.3	10.3		
Age (Years)				
Mean (SD)	39.9 (10.4)	37.8 (8.8)	0.23	-
Range	19 to 66	17 to 55		
Musical Training				
Yes	43.3	30.9	0.14	-
No	56.7	69.1		
Play Instrument				
Yes	31.9	33.8	0.90	-
No	68.1	66.2		
Karaoke Singer				
Yes	73.1	54.4	0.02	2.3 (1.1 to 4.7)
No	26.9	45.6		
Choir Singer				
Yes	50.0	25.0	0.003	3.0 (1.5 to 6.2)
No	50.0	75.0		
Concert Participation				
Yes	41.2	38.2	0.73	-
No	58.8	61.8		
Singing Prior to Most Recent Admission				
Same as before	30.9	77.9	<0.001	7.9 (3.7 to 17.1)
More than before	69.1	22.1		

SP: Schizophrenic Patients

sung in choirs and to engage in karaoke-style singing, either domestically or in karaoke lounges. Some 69% of manic patients versus 22% of SPs reported having sung more than usual prior to their most recent admission to hospital, a highly significant difference (OR = 7.9, 95% CI, 3.7 to 17.1).

Of the manic inpatients, 48% of them sang in the presence of the researcher, with one singing without being asked. We had to request 2 manic inpatients to stop once they commenced their singing, while the remaining 9 stopped on their own accord. By contrast, none of the outpatient manic patients and none of the SPs agreed to sing when requested by the researcher. Of the SP inpatients, only 28% agreed to sing. There was a trend for manic patients (vs SP) inpatients to agree to sing on request ($P = 0.09$).

Those who sang in the presence of the researcher were more likely (all: $P < 0.01$) to report increased current talkativeness (OR = 5.1, 95% CI, 1.3 to 19.8), singing during relapses (OR = 6.2, 95% CI, 1.8 to 21.5), and to have experience with karaoke-style singing (OR = 2.3, 95% CI, 1.1 to 4.7), while they also acknowledged a “much” to “very much better” mood (OR = 7.0, 95% CI, 1.4 to 35.6).

Discussion

Our findings established that both inpatient and outpatient manic individuals were more likely than those with schizophrenia to report an increased propensity to sing during a relapse. In addition, there was a trend for inpatient (but not outpatient) manic patients to be more likely to agree to sing when invited, with that difference presumably reflecting a difference in the severity of manic features. We presume that the increased (and somewhat selective) propensity of manic patients (in comparison to SPs) to sing reflects both mood elevation (illustrated by many singing joyous songs, and, at times, making up lyrics to fit into known tunes) and a level of disinhibition. In this study the issue is not whether manic patients sing but whether during relapse, they felt like singing more than their usual. At no time were patients given the impression that the researchers were expecting an affirmative reply. Nursing and medical records seemed to confirm that those who agreed to sing were “disinhibited”, “overfamiliar” and “talkative” at the time they were interviewed. Although some SPs sang on request, those who did so were not more likely to report an elevated mood in contrast to the manic patients who reported mood elevation.

For persons to sing in response to a stranger’s request requires overcoming one’s inhibitions. Past experiences of choir and karaoke participation, in the context of elevated mood and behavioural disinhibition were the possible predisposing factors associated with higher singing propensities.

A limitation of the study was that when the patients were interviewed, they had already received treatment, thus ameliorating many of their symptoms and inclination to sing. In fact, only one fifth of the manic patients and one quarter of SPs had symptoms of their respective illnesses when interviewed. With the signs of illness evident in the acutely psychotic patients, it was impossible to achieve complete blinding despite non-disclosure of diagnoses. In any case, the majority were outpatients whose conditions had stabilised. In view of retrospective responses, it could be argued that an element of recall bias might have been introduced, notwithstanding the fact that patients were not informed of our hypothesis linking singing to manic relapse.

As noted earlier, it can be difficult to differentiate schizophrenia and bipolar disorder cross-sectionally, particularly when patients are acutely psychotic. Observational analyses can assist, with bipolar patients tending to be more active, intrusive, multi-phasing, disinhibited and energised, constructs that allow identification and refinement of finer-focussed signs. Likewise, we suggest that singing is a signal weighted to psychotic patients in a manic state and worthy of having its utility examined in finer detail.

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