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Predictors and Characteristics of Response and Nonresponse: A Ten Year Follow-Up of First Episode Schizophrenia in Mumbai

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Abstract

▪It is not clearly known what predicts good long-term outcome in first episode schizophrenia and what the characteristics are that differentiate patients who do and do not show good response

▪ We attempted to find the characteristics and predictors of good out-come for patients who presented with severe psychopathology and were hospitalized in their first episode psychosis in a tertiary psychiatric hospital in the city of Mumbai

▪ 101 patients of first episode schizophrenia were assessed at hospitalization, and reassessed at ten years

▪ The data was analyzed on 13 outcome parameters for predictors and characteristics of good outcome, using the SAS system of statistical analysis

▪ 61 of 101 patients showed good outcome on the CGIS after ten years

▪ Predictors of good recovery were high baseline positive symptoms and low negative symptoms, higher anxiety-depressive symptoms, lower level of depressive symptoms, lower level of aggression, higher work performance and ability to live independently.

▪ Characteristics of non-recovered patients showed higher extra pyramidal symptoms, severe aggressive symptoms, higher frequency of disorganization symptoms at baseline and higher level of family burden at the end of the term

▪ Our study shows reasonably good outcome [61.7%] in first episode-hospitalized patients

▪ Good outcome correlated with severity of positive symptoms, level of work function and ability to live independently at baseline

Background

▪ Outcome of schizophrenia in developing countries, including India, has been 'good' due to a variety of reasons, such as the acute and florid nature of symptoms, less deterioration, family support, etc. However, the psychosocial situation of metro cities also contributes to poorer outcome and may jeopardize the benefits seen in the developing world.

▪ Historically, poor outcome has often been considered to be an integral part of the concept of schizophrenia, though in recent times this has been challenged by many cross-cultural studies. The evidence arising from various studies across the globe largely supports the '*favorable outcome hypothesis in developing countries*', i.e. developing countries have a larger proportion of patients with a good outcome and lesser percentage with a worse outcome as compared to developed countries

▪ The pertinent question remains: 'Do patients in developing countries continue to have good outcome of schizophrenia?' Furthermore, what characteristics predict good outcome?

Methods

▪ The study was carried out in a non-governmental, psychiatric hospital certified as a psychiatric facility by the State Government as per the Indian Mental Health Act 1987. The study period spanned from 1993 to 2007.

▪ The current sample of 101 patients diagnosed with schizophrenia were admitted in their first episode ten years back. These patients were assessed at the time of admission and then ten years post-treatment the available patients were reassessed

▪ Good outcome was defined as those showing 'improvement' and 'much improvement' on the CGIS. Clinical assessment was administered by two experienced clinicians. Also at the follow-up, diagnosis was reconfirmed using the DSM-IV-TR

Measures

▪ Measures of outcome on multidimentional criteria were divided into clinical and social recovery

▪ Clinical parameters consisted of symptoms, psychopathology, side effects, depression, aggression, hospitalization , and suicidality

▪ Social parameters were quality of life functioning, employability, return to education, interpersonal functioning, level of family burden cause, and the ability to live independently

▪ Outcome was measured using the Clinical Global Impression Scale (CGIS).

Differences on Continuous Variables

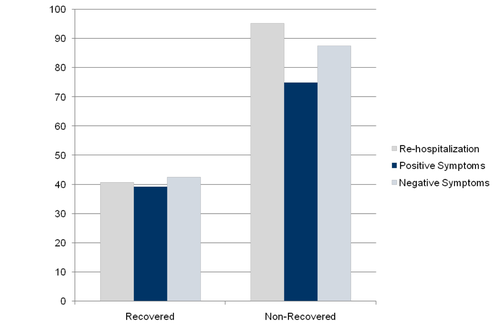
Differences between Recovered & Non-recovered subjects at 10 years (Continuous Variables)

Outcome	Non-recovered (n=40) {Mean (sd)}	Recovered (n=61) {Mean (sd)}	Difference {Mean (sd)}	95% CI about difference	P Value[γ]
Age at End of Study	33.4 (7.2)	41.8 (7.3)	-6.5 (7.3)	-9.4 - -3.5	<.001
PANNS	54.9 (9.0)	49.4 (8.2)	5.5 (8.5)	2.1 - 9.0	.002
Positive Symptoms	9.8 (3.8)	8.0 (3.9)	1.9 (3.8)	0.3 - 3.4	.019
Negative Symptoms	15.4 (6.0)	10.1 (7.5)	5.4 (6.9)	2.6 - 8.2	<.001
GP	26.3 (10.0)	31.0 (12.7)	-4.7 (11.7)	-9.4 - 0.1	.053
HDRS	14.1 (4.9)	12.5 (5.3)	1.6 (5.2)	-0.5 - 3.7	.141
GAF	79.9 (10.7)	78.3 (12.2)	1.6 (11.7)	-3.3 - 6.5	.523
QOL	54.5 (7.5)	76.2 (11.5)	-21.7 (10.1)	-25.8 - -17.6	<.001

γ Statistical comparisons obtained using unpaired t-tests. For QOL there was evidence that the variances are not equal. However, via a non-parametric test (Wilcoxon two-sample test) a between-group statistically significant difference was observed (p<.001)

Results – Clinical Outcome

▪ Recovered and non-recovered groups differed in repeat hospitalization, presence of positive symptoms and presence of negative symptoms



▪ In a logistical regression analysis we found that recovery was statistically correlated with higher age at the baseline, higher scores on positive symptoms, lower scores on negative symptoms, lower scores on depression, and lower levels of aggression

▪ The scores of total PANSS baseline, CGIS, gender, baseline interpersonal social functioning, the level of family burden, and level of suicidality did not predict either good or poor outcome

Differences on Dichotomous Variables

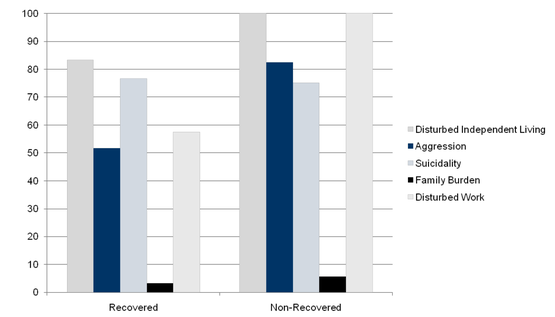
Differences between Recovered & Non-recovered subjects at 10 years (Dichotomous Variables)

Outcome	Non-recovered (n=40) {frequency (%)}	Recovered (n=61) {frequency (%)}	P Value[γ]
>1 Hospitalization in 10 years	37 (92.5%)	24 (40.7%)	<.001
>7 Positive Symptoms	30 (75.0%)	24 (39.3%)	<.001
>7 Negative Symptoms	35 (87.5%)	26 (42.6%)	<.001
Disorganization >3	27 (67.5%)	17 (27.9%)	<.001
IP Social ≤3	36 (90.0%)	37 (60.7%)	.001
Work ≤3	39 (97.5%)	36 (60.0%)	<.001
AIMS ≤2	25 (62.5%)	39 (66.1%)	.713
Disturbed Independent Living ≤3	35 (87.5%)	16 (27.1%)	<.001
Aggression>2	17 (42.5%)	22 (36.7%)	.558
Family Burden >3	22 (61.1%)	32 (53.3%)	.457
Suicidality - Occasional or Occasional with plan	20 (55.6%)	31 (51.7%)	.712
GAF≤80	20 (55.6%)	35 (58.3%)	.790
QOL<80	40 (100.0%)	32 (53.3%)	<.001

γ Statistical comparisons obtained using chi-square tests for comparing proportions.

Results – Social Outcome

▪ Poor work performance and poor interpersonal socialization did not significantly change during 10 years. Ability to live independently improved significantly. Those who did not recover had poor baseline work functioning, poor independent living ability, high scores on aggression



Conclusions

▪ The present study shows that out of 101 patients available at 10 years of follow up 61 showed much improvement and 40 patients showed poor outcome

▪ There was statistically significant difference on the scale of total PANSS and both positive and negative symptoms in the recovered and non-recovered group

▪ The characteristic features of the group not showing recovery were lower age at intake, lower positive symptoms, higher negative symptoms, lower anxiety-depressive symptoms, higher scores of depression, higher score of aggression

▪ Thus, our study shows reasonably good recovery [61.7%] in first episode-hospitalized patients. The good outcome correlated with severity of positive symptoms, level of work function and ability to live independently at baseline.

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