

## Severity Of Relapse And Medication Adherence In Patient Of Schizophrenia: A Study From Nepal

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### Abstract

**Introduction:** Schizophrenia is a clinical syndrome of variable, but profoundly disruptive psychopathology. Though it is one of the top ten illness contributing to global burden of disease, relapse rate in schizophrenia is high. Globally relapse rate varies from 50% to 92% and are similar in developed and developing countries. There are various factors associated with relapse, common being poor adherence to treatment. The estimated rate of non-adherence in schizophrenia are 50% widely ranging from 4% to 72%. This study was aimed to find the socio-demographic status of non-adherent group, contributing factors and their severity.

**Material And Method:** A descriptive, cross-sectional study among 95 schizophrenia relapsed patients seeking psychiatric inpatient services at Nepal Medical College Teaching Hospital, Attarkhel, Nepal from the period of Baisakh 3rd 2074 to Baisakh 4th 2075. The socio-demographic variables and clinical data of patients were recorded on proforma developed by department of Psychiatry. The severity of illness was assessed by using The Brief Psychiatric Rating Scale (BPRS) and Positive And Negative Syndrome Scale (PANSS). Also, medication adherence was assessed using Medication Adherence Rating Scale (MARS).

**Results:** Out of 95 relapsed patients, greater number (62.1%) were non-adherent to medication and (37.9%) were adherent to medication. Also, the symptom severity assessment showed significantly severe relapse in non-adherent patient group (43.1%) than adherent patient group (3.1%).

**Conclusion:** Non-adherent to medication is associated with significantly severe relapse in patients of Schizophrenia. Therefore, improving adherence to medication can be achieved by focusing on the identified multitude of factors driving non-adherence.

**Keywords:** Schizophrenia, Relapse, Non-Adherence, Severity

### INTRODUCTION

Schizophrenia is perhaps the most dramatic and tragic manifestation of mental illness known to mankind, description of which can be traced through written history, with early Greek physician, and treatment began only during 18th century in Europe.<sup>1</sup> According to World Health Organization (WHO) schizophrenia is one of the top ten illnesses contributing to global burden of disease.<sup>2</sup>

Relapse in schizophrenia has been defined as patients who had documented evidence of either re-emergence or aggravation of psychotic symptoms, a consultation with psychiatrist and medication change for deterioration of illness,

and / or admission to a psychiatric unit in accordance to Mental Health Care Act.<sup>3</sup> Globally relapse rate varies from 50% to 92% and are similar in developed and developing countries, despite the former having well-established mental health services.<sup>4</sup> Relapse in schizophrenia predicts poor prognosis (hospitalization, treatment resistance, cognitive -impairment) brings about deterioration in social, occupational and financial status and increase the burden of care on family.<sup>5, 6</sup>

Internationally, the factors commonly associated with relapse include poor adherence to treatment, substance abuse, co-morbid psychiatric illness, a co-morbid medical and/ or

surgical condition, stressful life events, and the treatment settings.<sup>7</sup> Adherence is defined as the extent to which the patient's behavior of taking medications, matches that agreed between patient and prescriber.<sup>8</sup> The estimated rate of non-adherence in schizophrenia are 50%, widely ranging from 4% to 72%.<sup>9</sup> Patients related factors (e.g., symptom severity, duration of illness, hostility, level of education, occupation, attitude toward illness, insight, substance abuse) and treatment-related factors (e.g., social support, living situation) have been found to be associated with non-adherence for schizophrenia.<sup>10-12</sup> A study conducted on South Eastern part of Nepal reported that the factors related to poor compliance to treatment were numerous, important being patient and illness related factors like suspiciousness 2%, poor insight 2%, unwanted side effects 92%, unaffordability 68%, substance use 19%, co-morbid illness 14%. However, no single factor was responsible for the illness.<sup>13</sup>

**MATERIAL AND METHOD**

This was a descriptive, cross-sectional, hospital-based study on relapse of patients diagnosed as schizophrenia (duration of illness more than 2 years) according to the Diagnostic Criteria for Research by the Division of Mental Health of the World Health Organization (WHO, 1992) as per Tenth Revision of International Classification of Diseases (ICD-10 DCR).<sup>14</sup> The study period was from Baisakh 3<sup>rd</sup> 2074 to Baisakh 4<sup>th</sup> 2075 where 95 schizophrenia relapsed patients seeking psychiatric inpatient services at Nepal Medical College Teaching Hospital, Attarkhel, Nepal were enrolled. Written informed consents were obtained either from the patient (who were able to give consent) or from family members. The socio-demographic variables and clinical data of patients were recorded on proforma developed by department of Psychiatry. Medication adherence was assessed using Medication Adherence Rating Scale (MARS), score equal to 6 or above indicates adherence, and below 6 is considered non-adherence.<sup>15</sup> Severity of illness was assessed by using The Brief Psychiatric Rating Scale (BPRS)<sup>16</sup> and Positive And Negative Syndrome Scale (PANSS).<sup>17</sup> Data was analyzed using SPSS 16 and descriptive, chi-square test was used.

**RESULT**

**Table 1: Correlation of socio-demographic factors with adherence status**

VARIABLES	TOTAL (N= 95)	ADHERENT GROUP (N= 36)	NON ADHERENT GROUP (N= 59)	P
<b>Gender</b> Male/female	52/43	20/16	32/27	N.S
<b>Age ( Mean±SD)</b>	35.57±8.65	36.17±7.82	35.20±9.16	N.S
<b>Marital status</b>				N.S
Married	62 (65.2%)	27 (28.4%)	35 (36.8%)	
Single	21 (22.1%)	7 (7.3%)	14 (14.7%)	
Separated/spouse dead	12 (12.6%)	2 (2.1%)	10 (10.5%)	
<b>Address</b>				N.S
Inside valley	44 (46.3%)	18 (18.94%)	26 (27.36%)	
Outside valley	51 (53.6%)	18 (18.94%)	33 (34.7%)	
<b>Caste</b>				N.S
Brahmin/kshatriya	29 (30.5%)	10 (10.5%)	19 (20%)	
Janjati	47 (49.4%)	19 (20%)	28 (29.4%)	
Others	19 (20%)	7 (7.3%)	12 (12.6%)	
<b>Religion</b>				N.S
Hindu	54 (56.8%)	21 (22.1%)	33 (34.7%)	
Buddhist	32 (33.6%)	11 (11.5%)	21 (22.1%)	
Others	9 (9.4%)	4 (4.2%)	5 (5.2%)	
<b>Education</b>				N.S
Illiterate	21 (22.1%)	9 (9.4%)	12 (12.6%)	
Literate	74 (77.8%)	27 (28.4%)	47 (49.4%)	
<b>Occupation</b>				N.S
Employed	66 (69.4%)	28 (29.4%)	38 (40%)	
Unemployed	29 (30.5%)	8 (8.4%)	21 (22.1%)	
<b>Income</b>				N.S
<5,000	19 (20%)	5 (5.2%)	14 (14.7%)	
5,000 - 10,000	41 (43.1%)	18 (18.9%)	23 (24.2%)	
>10,000	35 (36.8%)	13 (13.6%)	22 (23.1%)	
<b>Family history</b>				N.S
Yes	18 (18.9%)	6 (6.3%)	12 (12.6%)	
No	72 (75.7%)	27 (28.4%)	45 (47.3%)	
<b>Type of family</b>				N.S
Nuclear	70 (73.6%)	26 (27.3%)	44 (46.3%)	
Joint	25 (26.3%)	10 (10.5%)	15 (15.7%)	
<b>Living condition</b>				N.S
Alone	12 (12.6%)	2 (2.1%)	10 (10.5%)	
With children	54 (56.8%)	23 (24.2%)	31 (32.6%)	
Others	29 (30.5%)	11 (11.5%)	18 (18.9%)	
<b>Substance</b>				0.048
Not present	20 (21.05%)	11 (11.5%)	9 (9.4%)	
Alcohol	21 (22.1%)	8 (8.4%)	13 (13.6%)	
Nicotine	37 (38.9%)	13 (13.6%)	24 (25.2%)	
Cannabis	11 (11.5%)	3 (3.1%)	8 (8.4%)	
Others	6 (6.3%)	1 (1.05%)	5 (5.2%)	

There were total 95 schizophrenia relapsed patients (52 male and 43 female) included in our study period, out of which 62.1% were non-adherent and 37.9 % were adherent to medication. The mean age of schizophrenia relapsed patient was  $35.57 \pm 8.65$  years .There were no difference in socio-demographic factors between adherent and non-adherent patients group. The patients who were non-adherent to medication had significant substance dependence, ( $p= 0.04$ ) predominantly nicotine dependence (25.2%), followed by Alcohol dependence (13.6%), Cannabis dependence (8.4%) and others (5.2%) as opioids and benzodiazepines dependence. Symptom severity assessed through BPRS showed significantly severe relapse in non-adherent patient group (43.1%) than adherent patient group (3.1%). There were significant association between higher mean score on positive domain ( $24.64 \pm 8.4$ ), negative domain ( $21.14 \pm 8.81$ ) and general psychopathology domain ( $54.46 \pm 16.82$ ) of PANSS in non-adherent patients group. There were also significant association between high mean score ( $5.37 \pm 1.57$ ) of G12 domain of PANSS in non-adherent patient group in comparison to adherent group ( $3.17 \pm 1.27$ ) indicating poorer insight to illness and non-adherence to medication.

**Table 2 : Correlation Of Severity Of Illness with Adherence Status**

VARIABLES	TOTAL (N= 95)	ADHERENT GROUP (N= 36)	NON ADHERENT GROUP (N= 59)	P
<b>BPRS</b>				
Mild	19 (20%)	15 (15.7%)	4 (4.2%)	<0.001
Moderate	32 (33.6%)	18 (18.9%)	14 (14.7%)	
Severe	44 (46.3%)	3 (3.1%)	41 (43.1%)	
<b>PANSS</b>				
Positive symptom	$21.11 \pm 8.87$	15.31	$24.64 \pm 8.4$	<0.001
Negative symptom	$18.05 \pm 8.44$	$\pm 6.21$	$21.14 \pm 8.81$	0.001
General		$13 \pm 4.49$		
Psychopathology	$45.88 \pm 17.87$		$54.46 \pm 16.82$	0.003
Lack of judgments and insight (G12)	$4.54 \pm 1.81$	$31.83 \pm 7.83$	$5.37 \pm 1.57$	<0.001
		$3.17 \pm 1.27$		

**DISCUSSION:**

The onset of schizophrenia is complex, typically occurs in late adolescence or early adulthood.<sup>18</sup> The most common outcome of schizophrenia is usually remitting course with one or multiple relapses and patient on medication have relapse rate of 40%, while those who discontinue their treatment have a 1 year relapse rate of 65% and a 2 year relapse rate of more than 80%.<sup>19</sup> In this study, 62.1% of patients were non-adherent to medication. This finding is higher than the non-adherence rate reported in Southwest Ethiopia (41.2%).<sup>20</sup> The reasons for such differences could be irregular follow-up due to difficult topography, the lack of awareness about mental illness, lack of family/social support and complex drug regime. There were no association between socio-demographic factors on medication adherence which were similar to study done in South Korea.<sup>21</sup>

A prospective study found that patients in the non-adherent group had a higher percentage of present or past substance abuse compared with the adherent group, although the association was not significant.<sup>22</sup> But in our study there were significant association between substance dependence and non-adherence to medication ( $P < 0.05$ ). This might be because of easy accessibility and availability of substance in our country. Also the certain ethnic groups in Nepal are culturally permitted to take substance usually alcohol, it has become an indispensable food at the axis of their life. The symptoms severity depicted that severity of psychopathology was one of the important predictors of non-adherence. The mean score on positive, negative and general psychopathology domain assessed by PANSS were significantly correlated with non-adherence in our study and was accordance to various previous studies.<sup>23-26</sup> The reason for increase in PANSS scale score being associated with non-compliance could be paranoia or uncooperativeness, loss of volition and in particular low recognition of the need for treatment.

The mean insight score on G12 domain of PANSS was significantly higher ( $5.37 \pm 1.57$ ) in patients who were non-adherent to medication in comparison to adherent group ( $P < 0.001$ ). Our finding is concordance with finding reported by study conducted at USA, Nigeria and India

respectively.<sup>27,28</sup> Patients with poorer insight are unaware of their illness and refuse to take medication thus becoming non-adherent to medications.

#### Limitations

It was hospital based study with small sample size. So, this finding cannot be generalized to all patients. In this regard, the present study is a step toward documenting the problem.

#### CONCLUSION:

The finding of this study concluded that non-adherent to medication is associated with significantly severe relapse in patients of Schizophrenia. The factors which influence the adherence to medication were found to be substance abuse and severity of illness. Therefore, there is a need for identification and reduction of factors responsible for non-adherence to medication in schizophrenic patients.

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