TREATMENT NON-COMPLIANCE IN PATIENTS WITH SCHIZOPHRENIA

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ABSTRACT

INTRODUCTION

Non-compliance to medication in schizophrenia is a common problem. It leads to frequent recurrence of psychosis which has negative impact on individuals and their families. Understanding and reducing non-adherence is therefore a key challenge to quality care for patients with schizophrenia. This study was conducted with the aim of determining the incidence and factors associated with medication non-compliance among patients suffering from schizophrenia.

MATERIAL AND METHODS

This cross-sectional study included 94 schizophrenic subjects who visited psychiatric OPD of tertiary level hospital. Disproportionate stratified random sampling method was applied to collect the data. Socio-demographic data sheet, data sheet to collect the various factors of compliance and the 8-item Morisky Medication Adherence Scale (MMAS-8) were used for data collection by interview method.

RESULTS

The prevalence of non-compliance was 89.4%. With regards to association between noncompliance and demographic characteristics, there was high non-compliance rate in age below 40 years (54.2%), male (52.1%), married (64.8%) and low economic status (52%). Medication non-compliance were high in patients with medication side effects dizziness (60.6%), sedation (66%), longer duration of illness (92.8%) and having 1-3 pills (47.8%).

CONCLUSION

Medication non-compliance in schizophrenia was high. Measures that can increase compliance like psycho-educational programmes on compliance and the active involvement of the relatives and significant others in the management of patients of mentally ill patients are recommended.

KEYWORDS Schizophrenia, Compliance, Non-compliance, Factors affecting compliance

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INTRODUCTION

Non-compliance is a major challenge in the treatment of chronic illness like schizophrenia globally due to long duration of treatment and numerous other related factors.[1] Non-compliance or non- adherence to treatment is the degree to which a patient does not follow the treatment advice of treating doctor. In other words, it is the failure of the patient to follow the prescribed treatment regimen. Rates of adherence for individual patients are usually reported as the percentage of the prescribed doses of the medication actually taken by the patient over a specified period.[2] Patients are generally considered adherent to their medication if their medication adherence percentage, defined as the number of pills absent in a given time period ("X") divided by the number of pills prescribed by the physician in that same time period, is greater than 80%.[3] Although medication has been proven to be effective in improving the life of psychiatric patient, the overall prevalence of non-adherence among patients with mental disorders in the study was 38%.[4] Non-compliance with antipsychotic medication is observed in around 50% of people with schizophrenia and is a major preventable cause of psychiatric morbidity.[5] Studies have shown that patient rated as non-compliant have a six months to two years risk of relapse that is on average 3.7 times greater than that in patients rated as compliant.[6]

Potential contributing factors for treatment non-compliance can be broadly conceptualized under the health belief model, which pointed out that adherence behavior is dynamic and influenced by different factors including beliefs about the need for treatment, and its potential risks and benefits factor.[7] Novic et al[8] pointed out the treatment compliance in schizophrenia, including patient-related factors such as psychopathology and co-morbidity; financial factors, supervision of treatment, and location of treatment services; physician-related factors, such as therapeutic alliance and provision of information; and treatment-related factors, such as side effects, dosing and administration, and poly-pharmacy. It concluded that the issue of treatment adherence in schizophrenia is extremely complex and multifaceted, and is likely characterized by multifarious relationships between beneficial medication effects, medication side effects, the meaning of medication effects and side effects to the patient, and adherence to prescribed treatment. Financial constraints, lack of insurance, early stage of treatment, doubt about the treatment's efficacy, cognitive deficits, and poor physician-patient relationships are also likely predictors of noncompliance among psychiatric patients.[9]

In our country Nepal, the number of relapse and re-hospitalization due to non-compliance is increasing. However, the issue of non-compliance is not getting much attention. Though, there are lots of research on schizophrenia, There is a dearth of research on medication non-compliance. Therefore, this study was planned to study the prevalence of medication non-compliance and factors associated among patients with schizophrenia in outpatient unit of Department of Psychiatry, UCMS, Bhairahawa.

MATERIAL AND METHODS

This was a cross sectional study done in Psychiatry OPD of UCMS, Bhairahawa, Nepal. Patients diagnosed as a case of schizophrenia and who are under treatment for at-least six months and who have visited the OPD with a relative were included in the study. Disproportionate stratified random sampling method was used to collect the sample of 94 based on the inclusion and exclusion criteria. The information about the study was provided to all the subjects and any subject not willing to participate in the study was excluded from the study. Identity of the participants were kept confidential. The duration of the study was six months i.e. from 1st June 2018 to 30th Nov 2018. Ethical clearance for the study was taken from the Institutional Review Committee of UCMS, Bhairahawa, Nepal.

Datas were collected using socio-demographic data sheet, data sheet for various factors related to non-compliance and Morisky 8-Item Medication Adherence Questionnaire. Descriptive summaries of socio-demographic and contributing factors for all patients were analyzed. The data thus collected was kept confidential and was used for research purpose only.

Tools Used

i.   **Part I: Demographic Characteristics**
ii. **Part II: Factors related to medication, patient and physician**

Medication related factors-treatment done prior other than the doctor, cost affordability of medicine, cost of consultation, availability treatment, cost of travelling, side effects of drugs:
☐   Sedation,
☐   Dizziness,
☐   GI complication,
☐   Weight gain,
☐   Neuromuscular problems,
☐   Sexual problems

Patient related factors- forgot, became better, too may pills, exertion on travel, hot/cold, acute illness, acute illness, forms of treatment sought, level of social support

Physician related factors:
☐   Accessibility of doctor
☐   Awareness given by doctor
☐   Time given to patient,
☐   Level of satisfaction with the competence of doctor

Part III: Morisky 8-Item Medication Adherence Questionnaire

The eight-item Morisky Medication Adherence Scale (MMAS-8) is a structured self-report measure of medication-

taking behavior that has been widely used in various cultures. MMAS-8 is a reliable and valid measure of medication adherence that can be used in both psychiatric outpatients as well inpatients setting. This self-report scale consists of 7 items answered with a yes or no and 1 item with a 5-point Likert scale.[10] English version of the MMAS was translated into Nepali by two qualified independent, native linguistic expert translators. A back translation from Nepalese language to English was carried out. The back translated questionnaire was tested and approved by the developer through e-mail. Pretesting of developed tool was tested 10% of the sample size.

RESULTS

Among the total 94 subjects, 58.5% subjects were males and 41.5% subjects were females. Mean age of participants was 35.78 years with SD ±12.25. Majority of the participants (72.3%) were married, maximum patients (65.95%) were unemployed though majority (89.36%) were literate. This research report revealed that type of family pattern was not distinctly different. Maximum patients (60.64%) belonged to low economic status. (Table 1)

Table 1. Demographic characteristics of subjects with schizophrenia

Variables	Frequency	Percentage
Age group		
= 20 years	11	11.70
21 − 39 years	47	50.00
40 − 59 years	35	37.23
60+ years	1	1.06
<40 years	58	61.70
=40 years	36	38.3
Mean age and SD = 35.78 ±12.25		
Gender		
Male	55	58.5
Female	39	41.5
Marital status		
Married	68	72.3
Unmarried	26	27.7
Occupational status		
Employed	32	34.04
Unemployed	62	65.95
Education status		
Literate	84	89.36
Illiterate	10	10.63
Education level (n=84)		
Basic	40	47.61
Secondary	31	36.94
University	13	15.47
Type of family		
Joint	48	51.07
Nuclear	46	48.93
Economic status		
low income	57	60.64
middle income	37	39.36

There was a history of noncompliance with oral medication in 89.4% patients all together during the course of their illness. Compliance or low non-compliance was 10.63% whereas medium and high non-compliance were 23.40% and 65.95% respectively. (Table 2)

Table. 2. Level of medication non-compliance in schizophrenia based on MMAS-8 questionnaire

Level of non-compliance	Frequency	Percentage
Low non-compliance (high compliance) (MMAS-8 Score =8)	10	10.63
Medium non-compliance (Medium compliance) (MMAS-8 Score = 6 -<8)	22	23.40
High non-compliance (low compliance) (MMAS-8 Score = <6)	62	65.95

With regards to association between noncompliance and demographic characteristics, there was high non-compliance rate in age below 40 years (54.2%), male (52.1%), married (64.8%), literate (80.8%), unemployed (56.4%), joint (46.8%) and low economic status (52%). (Table 3)

Table 3. Factors associated with medication non-compliance in schizophrenia by demographic characteristics

Variables	Compliance n (%)	Non-compliance n (%)	P
Age group			NS
<40 years	7 (7.4)	51 (54.2)	
=40 years	3 (3.1)	33 (35.1)	
Gender			NS
Male	6 (6.3)	49 (52.1)	
Female	4 (4.2)	35 (37.2)	
Marital status			NS
Married	7 (7.4)	61(64.8)	
Unmarried	3 (3.1)	23 (24.4)	
Education status			NS
Literate	8(8.5)	76(80.8)	
Illiterate	2(2.1)	8(8.5)	
Occupational status			NS
Employed	2(2.1)	31(33.0)	
Unemployed	8(8.5)	53(56.4)	
Type of family			NS
Nuclear	6(6.4)	40(42.6)	
Joint	4(4.2)	44(46.8)	
Economic status			NS
Low income	8(8.5)	49(52.0)	
Middle income	2(2.1)	35(37.0)	

*p<0.05 = significant, NS=not significant

All the factors were classified in three categories: treatment related factors, patient related factors, medicine side effect related factors and patient related factors.

Medication non-compliance were high in the factors such as, having history of medication side effects of dizziness (60.6%), sedation (66%), weight gain (57.4%), feeling better (63.8%), duration of illness for 15 years (92.8%), duration of treatment for 10 years (76.5%), travelling cost (76.5%), patients having two to three pills had high (47.8%) in comparison to more than three drugs which is statistically significant (p=0.02) and there was no difference in noncompliance among patients having history of previous treatment i.e. 44..7% which is statistically significant (p=0.01). (Table 4,5)

Table 4. Treatment related factors associated with non-compliance in schizophrenia

Factors of Non -compliance	Compliance	Non-compliance	p
Duration of illness			
1-15years	8(8.5)	78(92.8)	NS
16-30 years	2(2.1)	6(6.3)	
Duration of treatment			
1-10 years	7(7.4)	72(76.5)	NS
11-20 years	3(3.1)	12(12.7)	
Comorbidity			
Yes	3(3.1)	13(13.8)	NS
No	7(7.4)	71(75.5)	
Seeking treatment			
Yes	1(1.0)	15(15.6)	NS
No	9(9.5)	69(73.4)	
Number of pills			
1-3	9(9.5)	45(47.8)	**0.02**
4-6	1(1.0)	39(41.5)	
Previous treatment			
Yes	9(9.5)	42(44.7)	**0.01**
No	1(1.0)	42(44.7)	
Treatment adapted (n=51)			
Traditional	8(44.7)	37(39.4)	NS
Modern	1(1.0)	5(5.3)	
Travelling Cost (Rs.)			
=1000	9(9.5)	72(76.5)	NS
1001-2000	1(1.0)	12(12.7)	
Lack of support			
Yes	1(1.0)	21(22.3)	NS
No	9(9.5)	63(67.0)	
Consultation Cost (Rs.)			
=10000	3(3.1)	27(28.7)	NS
10001-20000	7(7.4)	57(60.6)	

(Treatment related factors)

*p<0.05 = significant, NS=not significant

Table 5. Other factors associated with non-compliance in schizophrenia

Factors of Non -compliance	Compliance	Non-compliance	p
Dizziness			
Yes	7(7.4)	57(60.6)	NS
No	3(3.2)	27(28.7)	
Sedation			
Yes	8(8.5)	62(66.0)	NS
No	2(2.1)	22(23.4)	
GI complication			
Yes	5(5.3)	29(30.9)	NS
No	5(5.3)	55(58.5)	
Weight gain			
Yes	6(6.4)	54(57.4)	NS
No	4(4.3)	30(31.9)	
Neuromuscular problems			
Yes	3(3.2)	35(37.2)	NS
No	7(7.4)	49(52.1)	
Sexual problems			
Yes	1((1.0)	14(14.9)	NS
No	9(9.5)	70(74.5)	
Forgetting to take medicine			
Yes	5(5.3)	48(51.1)	NS
No	5(5.3)	36(38.3)	
Feeling better			
Yes	5(5.3)	60(63.8)	NS
No	5(5.3)	24(25.5)	
Acute illness			
Yes	1(1.0)	13(13.8)	NS
No	9(9.5)	71(75.5)	
Cultural barrier			
Yes	2(2.1)	18(19.1)	NS
No	8(8.5)	66(70.2)	

(Medicine side effect related factors / Patient related factors)

DISCUSSION

It is evident from the findings of our study that multiple factors are responsible for poor compliance of therapeutic regimen. This finding is also supported by study done by Roy R et al.[11] Non-compliance to medication frequently contribute to relapse and re-hospitalization[12] The cost of poor compliance to sufferers and also to society is considerable and effective ways of improving compliance are a crucial part of good management.[13]

Our study revealed that significant majority (89.4%) of patients with Schizophrenia had non-compliance with medication. This was similar to the finding from the Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE) study which showed that 74% of patients had discontinued medication within 18 months. The reason was attributed to

insufficient efficacy, intolerable side effects and other reasons.[14]

With regards to association between noncompliance and demographic characteristics, there was high non-compliance rate in age below 40 years (54.2%) similar to the findings by other studies.[15,16] This could be because of the Younger patients negative perception of medicine, perceiving them to be more harmful and viewing themselves as possessing greater personal control on how to best manage their condition. Male subjects had more non-compliance (52.1%) as compared to females similar to the finding by Fleischhacker et al.[17] Reason for this difference was not clear. However, it could be because males are more busy to earn their living which might have resulted in non-compliance after missing the pills frequently. Similar to study by Maan CG et al,[9] our study reported that non-compliance was more common among married patients (64.8%) as compared to unmarried patients. This was in contrast to the belief that married patients will be more compliant because of help and support from the spouse. Unemployed (56.4%) patients were found to be more non-compliant. This finding is consistent with findings from other studies.[18] This could be due to the financial constraints as the patient may find difficulty in affording medication for a longer period. This finding of our study is further supported by the fact that patients with low economic status (52%) were found to be more non-compliant.

In this study, medication non-compliance was high in patients who developed side effects like dizziness, sedation, weight gain. Similar finding was seen in other study where patients who discontinue prescribed neuroleptic medicine cite side effects as their primary reason for non-compliance.[19] Feeling better (63.8%) was a result for non-compliance in significant number of patients. Absence of symptoms may be perceived as cure leading to discontinuation of treatment.

The other reason could be lack of knowledge in patients about the duration of treatment and the chances of recurrence after treatment cessation. Also it could be lack of psychoeducation from the treating psychiatrist. Patients who had longer duration of illness and who were taking treatment for a longer duration had higher non-compliance in this study. This finding was supported by Rekha et al.[20] Most of the researches so far shows that discontinuation rates were higher among patients receiving polypharmacy compared to those receiving monotherapy.[21] Our study findings were quite opposite to this popular belief. Patients having 1-3 pills had high non-compliance in comparison to patients having more than three drugs. Reason for this could not be known exactly. However, it could be because patients who were on multiple medications might be having severe psychotic symptoms and other family members might also be vigilant about the patients compliance. This could be the reason for high compliance in patients taking multiple pills.

There were few limitations of the study. Sample size was small. This study was done in a tertiary hospital, so result of this study may not represent the general population. Recall bias associated with self-reporting was also one major limitation.

CONCLUSION

This study revealed that non-compliance among patients with schizophrenia was high. The reasons for non-compliance was multiple. The study findings suggest that there is a need to take necessary steps to reduce non-compliance so that poor outcomes related to lack of compliance in drug therapy can be reduced.

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