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ORIGINAL RESEARCH ARTICLE

FACTORS AFFECTING THE MEDICATION TAKING BEHAVIOR OF PSYCHIATRIC PATIENTS: A PRELIMINARY STUDY FROM CENTRAL NEPAL

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ABSTRACT

BACKGROUND: Nonadherence to treatment is a major problem in psychiatric patients and several factors are responsible for it. Our study accessed the medication taking behavior of psychiatric patients and the factors affecting such behavior. Methods: A cross-sectional study was conducted at Chitwan Medical College, Chitwan, Nepal from June 2015 to July 2015. A semi-structured questionnaire was used to collect the socio-demographic information, medication taking behavior during the last 4-week, medication missing pattern and reasons for missing. Bivariate followed by multiple logistic regression analysis was performed to predict factors affecting medication taking behavior. Results: Out of 204 patients, 76 (37.3%) patients missed to take their medication and nearly two third of them sometimes missed to take. Treatment related problems (27.6%), negligence (23.7%) and forgetting to take medicines (14.7%) were common reasons for missing. The patients with primary education (odds ratio [OR]=0.248, 95% confidence interval [CI]= 0.076-0.816, P=0.022), secondary education (OR=0.474, 95% CI=0.233-0.965, p=0.040), and mania and bipolar disorder (OR=0.348, 95% CI=0.124-0.975, p=0.045) were significant predictors of medication taking behavior. Conclusions: The medication missing behavior is high in patients with psychiatric disorders, significantly more in those with anxiety disorder and those who had never attended school. Necessary intervention is required to improve medication taking behavior in these group of patients.

Keywords: Behavior, Medication, Nepal, Psychiatric disorder.

INTRODUCTION

Adherence to medications is crucial in the management of chronic diseases.[1,2] The World Health Organization has reported that approximately 50% of the patients with chronic disease adhere to their medication.[3] Nonadherence to treatment is a major problem in psychiatric patients[4] and about 20-60% of the psychiatric patients fail to maintain adherence to their treatment.[5] Bulloch and Patten estimated that the non-adherence was 34.6% for antipsychotics, 34.7% for sedative-hypnotics, 38.1% for anxiolytics, 44.9% for mood stabilizers and 45.9% for antidepressants.6 Study by Mert et al demonstrated that 33.5% patients with bipolar disorder, 29.1% patient with schizophrenia/ schizoaffective disorder, 19.2% patients with depression and 18.2% patients with other psychiatric disorder patients failed to maintain adherence to their treatment.[7] Several factors such as gender, lower occupational status, alcohol misuse, disease, experiencing side effects, believing the medi-cation would not help them to recover, feeling well, the intensity of delusional symptoms and suspiciousness, seeking for traditional/spiritual treatment, duration of illness, low levels of insight, low social support and irregular follow-up are associated with medication nonadherence in psychiatric patients.[7-11] Medication nonadherence lead to relapses of disease, morbidity[12] more frequent episodic course

of illness and frequent readmission to hospitals.[8]

Prevalent stigma, negligible roles of legal and insurance system, traditional/religious healing methods, inadequate number of psychiatrists, psychiatric nurses and clinical psychologists, inadequate supplies of psychotropic medication and urban areas focused services are some of the challenges for providing adequate mental health service in Nepal.[13-15] Further, community mental health literacy is also low and there is no available model of multi-sectoral working or collaborations with traditional or religious healers.[15] Most of the previous studies were focused on evaluating the psychiatric disorder and drug utilization pattern.[16-18] An epidemiological study demonstrated that Nepal has a burden of psychiatric disorders with higher prevalence rates among women and elderly.16 However evidence on medication taking behavior of psychiatric individuals and factors influencing such behavior is lacking from this country. Baseline assessments of medication taking behavior along with associated factors may help in developing policies and intervention strategies aimed at improving medication taking behavior of psychiatric patients and overall clinical outcome. The objective of this study is to accesse the medication taking behavior of psychiatric patients and factors associated with such behaviors probably for a first time in Nepal.

MATERIALS AND METHODS

Study population

This was the cross-sectional study used to accesses the medication taking behavior of psychiatric patients and to explore the factors associated with such behaviors. The study was conducted at Medication Counseling Centre of Chitwan Medical College Teaching Hospital (CMCTH), Chitwan, Nepal. Patients were recruited from outpatient psychiatric department between June 2015 and July 2015. Ethical approval was obtained from the Institutional Review Committee of CMCTH. All patients receiving treatment for at least one month were requested to participate and those consented were included while mentally retarded patients were excluded from the study. Patients included in the study were categorized into anxiety disorder, depression, mania and effective bipolar disorder, schizopherenia and miscellaneous psychiatric disorders (such as somatization and dissociative disorder, alcohol related disorder, obsessive compulsive disorder – not otherwise specified) groups.

Data collection tools

A semi-structured questionnaire was used to collect socio-demographic information and medication taking behavior of psychiatric patients. Socio-demographic information (age, sex, education level, employment status, marital status, place of residence) and treatment information (duration of therapy in a months, number of drugs per prescription, frequency of administration) were recorded. Patient's medication taking behavior was determined by asking closed ended question (dichotomous-Yes/No): "Have you ever missed to take your medications during last 4-weeks". Those who missed were asked about frequency of missing (rarely, sometimes and usually) and further asked the reasons of missing. The reasons for missing medication were categorized into: forget to take medicines (due to travelling, tension or stress and sleep), natural disaster, financial problem, disability, treatment related problem (lack of faith on treatment, longer duration of treatment, cure or not cure of disease, lack of consultation with doctor, unavailability of medicine, adverse drug reactions, feeling guilt), multiple reasons, co-morbid conditions, negligence (laziness, lack of time), and no reasons provided.

Statistical analysis

Data were analyzed using International Business Machines-Statistical Package for Social Sciences (IBM-SPSS) Version 21 (IBM Corporation, Armonk, NY, USA). Differences between two groups were tested using Mann–Whitney U test, or $\chi 2$ test where appropriate. After descriptive analysis, independent variables affecting the medication taking behavior namely age, sex, education, occupation, marital status, disease, duration of therapy, number of drugs per prescription and frequency of administration were analyzed using logistic regression analysis. $P<0.05$ was regarded as statistically significant.

RESULTS

Out of 204 patients, 138 (67.6%) were females. The median (IQR) age of study population was 38 (31.25-47) years. Ninety two (45.1%) patients

never attended school and 70 (34.3%) patients had secondary education. About three quarter (75.5%) of the patients were unemployed. With respect to disease/diagnosis, 74 (36.3%) patients were suffering from depression, followed by 56 (27.5%) mania and affective bipolar disorder and 38 (18.6%) from anxiety disorder. The median duration of treatment (month's) and number of drugs per prescription was 18(6-48) and 4(3-5) respectively. Majority (78.4%) of the patients were taking their medication twice daily (Table 1).

Among the 204 patients, 76 (37.3) mentioned that they missed to take their medication during last 4-weeks. Forty eight (63.15%) patients stated they sometimes missed to take their medications while 27 (35.52%) patients had missed rarely to take their medications during the same period (Table 2). Treatment related problem (27.6%), negligence (23.7%) and forgeting to take medicines (14.7%) were common reasons for missing to take medications (Table 3). On bivariate analysis (Chi-square test), medication taking behavior of the patients was significantly associated with education of patients (P=0.021) and with type of psychiatric disorder (P=0.0270) (Table 4).

On multivariate logistic regression analysis, education of patients and type of psychiatric disorders were the significant predictors of medication missing during last 4-weeks. The model demonstrates that patients with primary education and secondary education have 0.248 and 0.474 times lesser odds of missing medication than those who never went to school at P=0.022 and P=0.040 respectively. Those patients who have mania and bipolar disorders have 0.348 times lesser odds of missing medication compared to those with anxiety at P=0.045 (Table 5).

Discussion

Missing to take medication regimens is a serious problem in psychiatric patients and information regarding factors influencing the optimal use of medications is vital. Our preliminary study determined the medication taking behaviour of psychiatric patients and explored the factors associated with such behaviours. We enrolled patients with anxiety disorder, depression, mania and effective bipolar disorder, schizopherenia and miscellaneous psychiatric disorders in our study groups. Of these, 37.3% of them had missed their medication(s) during the last 4-weeks and the common reasons behind this behaviour were those related to treatment (such as lack of faith on treatment, longer duration of treatment, cure or not cure of disease, lack of consultation with doctor, unavailability of medicine, adverse drug reactions, feeling guilt), self negligence and failing to remember taking their medication(s). Several studies have reported that medication nonadherence in patients with psychiatric disorders ranges from 33-52.9%,[7,10,19] commonly due to the adverse effects of medications[7,11,19] and forgetting to take them.[6,19] More than 70% of patients under medications for their psychiatric disorder(s) have been known to forget taking antipsychotics, mood stabilizers and antidepressants while to lesser extent anxiolytics (46.7%) and sedative-hypnotics (36.3%).[6] Besides, some of the encountered causes responsible for medication missing behaviour were known to be losing medication, running out of stock, thinking medication unnecessary[19], reluctance to take drugs,[7,19] believing medication would not help them recover and feeling well.[11]

The analytical statistics in this study illustrated that the complexity of the illness (type of psychiatric disorder) and level of education had major influence on the medication taking tendency of individuals with psychiatric disorders. Both of these factors were significant predictors of medication missing pattern, specifically primary education, secondary education, and mania and bipolar disorder. The patients with depression and missing the medication were in higher number as compared to those with anxiety disorder; mania and effective bipolar disorder; schizopherenia and miscellaneous psychiatric disorders, though the medication missing pattern was recognized to be analogous in cases of anxiety disorder, and mania and effective bipolar disorder groups. However, the impact of depression on medication missing behaviour was not statistically significant in predictive analysis, instead individuals having mania and bipolar disorder had lesser odds of missing medication compared to those with anxiety at statistically significant value. To the contrary, higher medication missing pattern has been recently known to be involved in bipolar disorder rather than depression or schizophrenia/schizoaffective disorder, or other disorders.[7] The findings of this study further suggest that those suffering from

bipolar disorders and schizophrenia do not accept their disease in the first instance and those with depression often tend to miss their medication due to self feeling of wellbeing,[7] thus, increasing the likelihood of missing the medication. But the intensity of delusional symptoms and suspiciousness during the illness has also been reported to affect the adherence towards their medication.8 Similarly, our study also showed that the level of education was a predictive factor of medication missing behaviour in patients with psychiatric disorder. As our study, other studies also suggested that education level as a predictor of medication non-adherence in first-episode psychosis.[20-22] Studies have also depicted several factors affecting the medication missing pattern besides type of psychiatric disorder and level of education that include irregular follow up,[7] lower occupational status, alcohol misuse, intensity of delusional symptoms and suspiciousness,[8] seeking traditional/spiritual treatment, low levels of insight, low social support levels,[9] sex,[9,10] age and duration of illness.[10]

The results of our study suggest that individuals with psychiatric disorder may need intervention in order to improve their antipsychotic medication taking behaviour. The medication taking behaviour of these individuals can be improved through their participation in shared decision making[23,24] and offering financial incentives.[25, 26] Also adherence with the antidepressants can be improved through treatment satisfaction.[27] Moreover, psychosocial interventions such as cognitive-behavioural therapy, motivational interviewing, psychoeducational intervention and behavioural training, and pharmacological interventions such as careful drug selection, switching when a treatment is not working, dose adjustment, simplifying the treatment regimen, and the use of long-acting injections are some of the current opinions for tackling non-adherence in psychiatric disorders.[28,29] Furthermore, clinical interventions such as educational programme, pre-discharge educational sessions and telephone prompts can be useful for reducing nonadherence.30

Our study is probably the first to report the medication taking behaviour of patients with psychiatric disorders and factors associated with such behaviour from Nepal. Beside this, we also generated baseline reasons for missing their medication. However, our study is a single centre cross-sectional study and the frequency of individuals with different types of psychiatric disorders is also unequal. We also included only a limited number of socio-demographic factors. A large multi-centre study with detailed socio-demographic factors and in-depth interview of the participants can be considered to establish this initial evidence.

CONCLUSION

The ratio of medication missing pattern is higher at outpatient setting in individuals with psychiatric disorders. Medication missing behaviour was significantly more in patients with anxiety and those who had never attended school. Views of psychiatric patients on medication taking behaviour may contribute to determining strategies to decrease the medication missed by psychiatric patients. It is recommended to evaluate medication taking behaviour in future stud¬ies through more specific methods such as pill counting and biochemical analysis along in our perspective.

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Table 1: Baseline characteristics of study population.

Variables		n(%)
Age*		38(31.25-47)
Sex	Male	66(32.4)
	Female	138(67.6)
Education	Never attended school	92(45.1)
	Primary education	22(10.8)
	Secondary education	70(34.3)
	College level or above	20(9.8)

Employment status	Unemployed	154(75.5)
	Employed	50(24.5)
Marital status	Unmarried	18(8.8)
	Married	180(88.2)
	Divorced or widow	6(2.9)
Type of psychiatric disorder	Anxiety disorder	38(18.6)
	Depression	74(36.3)
	Mania and affective bipolar disorder	56(27.5)
	Schizopherenia	19(9.3)
	Miscellaneous	17(8.3)
Duration of therapy (month's)		18(6-48)
Number of drugs (per prescription)		4(3-5)
Frequency of administration	Once a day	44(21.6)
	Twice a day	160(78.4)

*Median(IQR), IQR=Interquartile range

Table 2: Medications taking behavior/Pattern of Psychiatric patients

Medications taking pattern		**n(%)**
Missed during last 4-weeks	No	128(62.7)
	Yes	76(37.3)
Missing patterns(n=76)	Rarely	27(35.5)
	Sometimes	48(63.1)
	Usually	1(1.3)

Table 3: Patients reasons for missing to take their antipsychotic medication (n=76).

Reasons for missing	**n (%)**
Forget to take medicines	11 (14.5)
Natural disaster	2 (2.6)
Financial problem	4 (5.3)
Disability	1 (1.3)
Treatment related problem	21 (27.6)
Multiple reasons	5 (6.6)
Co-morbid conditions	3 (3.9)
Negligence	18 (23.7)
Pregnancy	1 (1.3)
No reasons provided	10 (13.2)

Table 4: Association between baseline characteristics and medication taking behavior.

Variables		**Missed to take medications**		**p-value**
		No	**Yes**	
Sex	Female	84(65.6)	54(71.1)	0.423
	Male	44(34.4)	22(28.9)	
Education	Never attended school	49(38.3)	43(56.6)	0.021*
	Primary education	18(14.1)	4(5.3)	
	Secondary education	50(39.1)	20(26.3)	
	Higher secondary or above	11(8.6)	9(11.8)	
Occupation	Unemployed	97(75.8)	57(75)	0.900
	Employed	31(24.2)	19(25)	
Marital status	Unmarried	12(9.4)	6(7.9)	0.765
	Married	113(88.3)	67(88.2)	
	Divoced or Widow	3(2.3)	3(3.9)	
Type of psychiatric disorder	Anxiety disorder	25(19.5)	13(17.1)	0.027*
	Dipression	38(29.7)	36(47.4)	
	Mania and effective bipolar disorder	44(34.4)	12(15.8)	
	Schizophrenia	12(9.4)	7(9.2)	
	Miscellaneous	9(7)	8(21.1)	

Frequency of administration	Once daily	28(21.9)	16(36.4)	0.890
	Twice a day	100(78.1)	60(78.9)	
Age (in years)		36.50(31.25-45)	40(31.25-50.75)	0.170
Duration of therapy(in months)		18(4-48)	24(10-48)	0.150
Number of drugs		4(3-5)	4(3-5)	0.123

*Significant at P<0.05

Table 5: Predictors of medication missing in patients with psychiatric disorders.

Characteristics		β(SE)	p-value	OR(95% CI)
Education	Primary education	-1.393(0.607)	0.022*	0.248(0.076-0.816)
	Secondary education	-0.746(0.362)	0.040*	0.474(0.233-0.965)
	Higher secondary or above	0.224(0.525)	0.670	1.251(0.447-3.501)
Types of psychiatric disorder	Depression	0.335(0.439)	0.445	1.398(0.591-3.308)
	Mania and bipolar disorder	-1.055(0.525)	0.045*	0.348(0.124-0.975)
	Schizophrenia	-0.063(0.617)	0.918	0.939(0.280-3.143)
	Miscellaneous	0.511(0.621)	0.411	1.667(0.493-5.630)
Duration of therapy		0.003(0.003)	0.438	1.003(0.996-1.009)
Number		0.185(0.123)	0.131	1.203(0.946-1.530)

*Significant at P<0.05

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