



TITLE: AN EXPLORATORY STUDY TO ASSESS DRUG NON-COMPLIANCE AND ITS ASSOCIATED FACTORS AMONG PSYCHIATRIC PATIENTS ATTENDING OUT PATIENT DEPARTMENT IN A SELECTED HOSPITAL OF PUNJAB.

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Background: Relapse, rehospitalization and poor quality of life is common among psychiatric patients due to medication non-compliance , so management of major psychiatric disorders is challenging . However, there is a scarcity of Indian studies on the prevalence of psychotropic medication non-compliance and associated factors. Therefore, we aimed to conduct a study to assess drug non-compliance and its associated factors among psychiatric patients attending out patient department.

Aim: Study aimed to promote drug compliance by giving guidelines to patients and their care givers about the importance of drug compliance in their recovery.

Methodology/design: An explorative design with 100 samples were purposively selected for the study. Objectives of the study were to assess drug non-compliance, factors associated with drug non-compliance, to determine association of drug non-compliance with selected demographic variables and to prepare and distribute guidelines regarding importance of drug compliance to psychiatric patients and their care givers. The socio-demographic profile sheet, drug non-compliance check list and check list on factors related to drug non-compliance was used. Data was collected for 2 weeks.

Results: Regarding drug non-compliance 98% of the psychiatric patients were non compliant to medication. factors associated with drug non-compliance were due to busy schedule (67%), change in taste due to medication

intake (92%), long term therapy of medications (91%), occurrence of side effects (89%), poor attitude of health care provider (21%) and long que to wait for check up in the hospital OPD (64%). Demographic variables such as Age, marital status, educational status, occupation, monthly family income and type of family were found to have association with drug non-compliance among psychiatric patients.

Conclusion: Findings revealed that Psychotropic medication non-compliance was high among the participants. It was influenced by various factors operating at different levels. Therefore, comprehensive intervention strategies should be designed to address factors associated with psychotropic medication non-compliance.

Key words: drug non-compliance, associated factors, psychiatric patients.

Introduction

The worldwide toll of mental, neurological, and drug-related illnesses in terms of morbidity and premature mortality has been enormous. According to a community-based epidemiological study conducted by the World Health Organization, prevalence rates of mental disorders in people range from 12.2% to 48.6% across their lifetimes and 8.4% to 29.1% over 12 months.¹

The management of major psychiatric disorders is challenging mainly due to medication non-adherence. Non-compliance to drugs can be incomplete or partial. Complete cessation of the drug is complete noncompliance where as the reduction in the dose is partial noncompliance. Another type is continuous versus transient noncompliance. Discontinuing drug for some time and resuming again is an example for transient noncompliance.²

The World Health Organisation (WHO) categorised the determinants of non-adherence into five dimensions: social and economic, health system-related, therapy-related, condition-related, and patient-related that contribute to medication non compliance in psychiatric patients³. Semahegn *et al.*² systematically reviewed 46 studies and reported that 49% of patients with major psychiatric disorders were not adherent to their prescribed medications. Individual patient behaviours and lack of social support were the factors most commonly associated with non-compliance.

Manhas RS *et al.*⁴ found that 64.9% schizophrenic patients were non adherent to their treatment. Prevalence of non adherence was higher in those schizophrenic patients who were males, unmarried, uneducated, unemployed and from rural areas. Compliance is a multifaceted issue and various factors related to the patient, illness, physician, social environment as well as the treatment itself are important.

Some of the patient related factors associated with noncompliance are younger age, male gender, unemployment, lower education, rural status⁴, non-availability of transport, interpersonal problems, lower socio economic status

²,forgetfulness ⁵, poor social support, stigmatized , negative attitude ⁶ , Inadequate availability of food, perceived strength of medications, social support and safety net, lack of insight, failure to improve, side effects, and poor attitude of the care provider ⁷.

Studies ⁸ found that financial constraints, lack of social support, family disruption, discrimination and disruptive behaviour were some of the influencing factors for non compliance. Therefore, improving medication compliance in persons with mentally ill holds the potential for reducing morbidity and suffering of patients and their families, in addition to decreasing the cost of rehospitalization.

About half of the patients with psychiatric disorders in India are nonadherent to their psychotropic medications. Evidence based interventions to improve medication adherence in these patients need to be developed and implemented proactively keeping in mind the factors associated with MNA. Thus the present study was carried out to assess drug non-compliance and factors associated with drug non-compliance among psychiatric patients.

Material and methods:

An exploratory research design was used for the study. The ethical clearance was obtained from the Institutional Ethics Committee. A formal written permission was obtained from the concerned authorities of the selected hospital to conduct the study. The study was conducted in psychiatric Out-Patient Department (OPD) of the selected hospital. Sample comprised of 100 psychiatric patients who were attending psychiatry OPD for the follow up. Purposive sampling technique was used for the selection of patients. The sampling criteria for patients were as follows: (1) patients aged more than 18 years (2) patients who visited the OutPatient Department (3) those who were suffering from psychiatric illness and seeking follow ups from atleast 6 months. (4) patients who were receiving psychotropic medications for at least one year. Patients who could not read and write English and Punjabi and patients who were newly diagnosed were excluded.

Sample size

Sample size was calculated based on the findings of a previous study ⁹. The study was conducted at vandana hospital, Bathinda, Punjab, India. Study was delimited to patients available at the time of data collection.

Data collection tool

Two research tools were used for the data collection which is as follows:

Tool 1- Socio-demographic data sheet

It is a self-structured tool and used to measure the socio-demographic profile of elderly. It consists of demographic variables such as age, gender, marital status, educational status, occupation, monthly family income

,Type of family, Type of mental illness and duration of illness . The total administration time for this tool was approximately 2–3 min.

Tool 2: Drug non-compliance check list .

A structured tool was prepared to assess drug non compliance and its associated factors. Preliminary drafting of tool was prepared after an extensive review of literature and consulting with subject experts. It consisted of 12 questions. Maximum score was 12 and the minimum score was 0.

A score of 11-12 considered as compliance and score between 0-10 considered as con-compliance. Reliability of tool in study setting was determined by split half technique and was calculated by Spearman Brown's Prophecy formula.the reliability of the drug non compliance checklist was 0.9, Hence the tool was reliable.

Tool 3: check list on factors related to drug non- compliance.

This part consisted of a checklist made to assess the associated factors related to drug non-compliance among psychiatric patients having only 2 options ie. Yes or no. It consisted of 24 items divided into 4 domains namely patient related factors with 8 questions, medication related factors with 6 questions, helthcare provider related factors with 5 questions and healthcare system related factors with 5 questions. The reliability of checklist on factors related to drug non-compliance was 0.8 which was calculated by Spearman Brown's Prophecy formula. Administration time was approximately 10 min for this tool.

All the tools were translated into Punjabi language under the guidance of language experts and amendments were made according to their suggestions. Back translation in English was done to ensure the content and meaning of the original tool. Try out of the tools were done to ensure the reliability and understanding of the tool . Pilot study was conducted as per the plan and the study was found to be feasible.

Ethical consideration

Confidentiality was assured by the investigator. Formal ethical approval was taken from the Institutional Ethical Review Committee (ERC) (letter no- RIN/2022/112, september 2022). A formal permission was taken from the significant authorities (managing director) of the selected hospital. The study objectives were explained to all participants and they were assured their personal data and responses would be kept confidential. Informed written consent was taken from all participants.

Data analysis

The analysis was conducted by descriptive and inferential statistics using SPSS version-16. Data was described using mean, mean percentage and standard deviation. The association of drugs compliance with demographic variables of the subjects was determined by ANOVA test. Appropriate descriptive and inferential statistics were employed to analyze data. In descriptive statistics; mean, percentages, and standard deviation were applied for analyzing the distribution of subjects according to their socio-demographic data, drug non-compliance status and factors associated with drug non compliance.

Results

In the present study, a total of 100 patients participated and 43% were in the age group of 33-47 years. Majority (60%) of the subjects were females, whereas 64% of subjects were married. 33% of the subjects were educated upto 10+2 . Regarding occupation 35% of them were homemakers and 14% of them were labourers. Majority (62%) of them had family income above 15000/- RS. Most (75%) of subjects were from nuclear families. Type of the mental illness shown that 78% of the subjects were suffering with mood disorders. 68% of the subjects were found to be ill for a duration of 6 months to 3 years whereas 17 % of them were ill for a duration of more than 6 years (**Table 1**).

Table 1: Frequency and percentage distribution of sample characteristics.

N=100

S.No	Demographic variables	f	%
1	Age in years		
	a. 18-32	23	23
	b. 33-47	43	43
	c. 48-62	24	24
	d. Above 62	10	10
2	Gender		

	a. Male	40	40
	b. Female	60	60
3	Educational status		
	a. No formal education	11	11
	b. Up to 5 ^h	16	16
	c. Up to 10 ^h	20	20
	d. Up to 10 +2	33	33
	e. Graduation above	20	20
4	Marital status		
	a. Married	64	64
	b. Unmarried	13	13
	c. Divorced/separated	9	9
	d. Widower	14	14
5	Occupation		
	a. Government job/ Private job	25	25
	b. Own business	14	14
	c. Home maker	35	35
	d. labourer	14	14
	e. Unemployed	17	17
6	Monthly family income		
	a. Less than Rs.5000	5	5
	b. Rs. 5001-10000	14	14
	c. Rs. 10001-15000	19	19
	d. More than Rs. 15000	62	62
7	Type of family		
	a. Nuclear	64	64

	b. Joint	36	36
9	Type of mental illness		
	a. Mood disorders	78	78
	b. Schizophrenia	---	---
	c. Anxiety disorders	22	22
	d. Others	---	---
10	Duration of illness		
	a. 6 months < 3 years	68	68
	b. > 3 years to 6 years	15	15
	c. Above 6 years	17	17

Drug non-compliance status among psychiatric patients showed that majority of them (98%) were non-compliant to treatment regimen and only (2%) of them were compliant. (Table 2)

Table 2: frequency ,percentage and mean distribution of psychiatric patients according to drug non-compliance

N=100

Drug compliance	n	Percentage	Mean	SD
Compliance	02	02	5.93	2.311
Non-compliance	98	98		

Maximum score-12

Minimum score-0

Factors associated with drug non-compliance among psychiatric patients showed that (**TABLE-3**) in patient related factors , maximum of patients (67%) were unable to take medication due to their busy schedule. While in medication related factors , a large proportion of subjects (92%) did not like to take medication because of it's change in taste followed by long term therapy of medications (91%). Pertaining to healthcare provider related factors , most of the subjects expressed that they had difficulty to take medication regularly due to poor attitude of healthcare provider (21%). Whereas in healthcare system related factors , maximum of the subjects had difficulty to take and continue medication due to long que to wait for check up in the hospital OPD (64%).

TABLE-3 frequency & percentage distribution of psychiatric patients according to factors associated with drug non-compliance.**N=98**

Sno	Factors of drug non-compliance	Yes n(%)	No n(%)
1.	Patient related factors		
	You are unable to take medication due to		
a)	Lack of financial resources to purchase medication	33(33)	65(65)
b)	Lack of family support	18(18)	80(80)
c)	Unstable living environment	24(24)	74(74)
d)	Busy schedule	67(67)	31(31)
e)	Improper explanation by healthcare provider	4(4)	94(94)
f)	Inability to understand benefits of therapy	2(2)	96(96)
g)	It is not important to follow medication regimen	0	0
h)	Inability to understand medication regimen	4(4)	94(94)
2.	Medication related factors		
	You don't like to take medication because of		
a)	More tablets to be taken daily	85(85)	13(13)
b)	Occurrence of side effects due to these medications	89(89)	9(9)
c)	Costly medications	62(62)	36(36)

d)	Colouring confusion of medicines	33(33)	65(65)
e)	Change in taste due to medication intake	92(92)	6(6)
f)	Long term therapy of medications	91(91)	7(7)
3.	Healthcare provider related factors It makes you difficult to take medication regurly due to		
a)	Poor relationship between healthcare provider and patient	0	0
b)	Poor communication skills and explanation of healthcare providers	7(7)	91(91)
c)	Poor attitude of healthcare provider	21(21)	77(77)
d)	Rude behaviour of healthcare provider	17(17)	81(81)
e)	Unclear and inappropriate explanation	6(6)	92(92)
4.	Healthcare system related factors It is difficult for you to take and continue medication due to		
a)	Lack of health care insurance	45(45)	53(53)
b)	High cost of medications	57(57)	41(41)
c)	Lack of access to medical facilities or pharmacy	34(34)	64(64)
d)	Long que to wait for check up in the hospital OPD.	64(64)	34(34)
e)	High hospital check up fee every time for check up In hospital OPD	54(54)	44(44)

Demographic variables such as age, marital status , educational status, occupation, monthly family income and type of family were found significant Association with drug non-compliance among psychiatric patients. In order

to find association ANOVA test was applied and was found to be significant at $p < 0.01$. Whereas demographic variables such as gender, type of illness and duration of illness were found non significant association with drug non-compliance among psychiatric patients.

Discussion

- The present study conducted among 100 psychiatric patients, 98% of them were non-compliant to medication and only 2% were adherent. The non-compliance to drugs placed them at high risk for relapse and rehospitalization. The non-compliance rate is relatively high in this study and shows the need of appropriate interventions. The results of present study are consistent with the findings of a study conducted by Kamala et al; (2020)⁹ which reported that 78% were non-adherent to psychotropic drugs. Another study by Sohini Banerjee et al¹⁰ revealed that total of 239 patients with unipolar depression 66.9% (169) were non adherent and 33.1% (79) were adhere to treatment.
- In the present study data regarding factors associated with drug non-compliance among psychiatric patients showed that 67% of them due to busy schedule, 92% of them change in taste due to medication intake, 89% due to side effects, 21% due to poor attitude of health care provider and 64% due to long que to wait for check up in the hospital OPD which is supported with the findings of Kamala et al; (2020)⁹ which reported that different side effects of medication were associated with the non-compliance of medication. Maan et al¹² reported that (10%) of the patients were non-compliant due to the side effects of medication mainly sedation and weight gain. There was evidence of patients making decisions about taking medicines based on different factors: patient related factors, treatment related factors and side effects of the drugs related factors¹³.
- Association of drug non-compliance among psychiatric patients with their demographic variable revealed that age, marital status, educational status, occupation, monthly family income and type of family were found significant Association with drug non-compliance among psychiatric patients. In this study, age and gender is significantly associated with non-compliance ($P < 0.01$) Similarly, age and gender are found to have significant association with non-compliance which is similar with the finding reported by previous study^{11,12}
- **Conclusion**

This study stresses the critical need for taking necessary steps toward minimizing poor outcomes related to lack of compliance in drug therapy. Study findings suggest a need to address adherence from the full range of influencing factors (patient, medication, healthcare provider and healthcare system related).

Mental health professionals should act as motivation facilitators for the adherence. Educating patients as well as family members regarding importance of regular medication intake is essential. As a frontline worker nurses should get involved in the psychoeducational interventions to promote adherence. The involvement of nurses in teaching the patients and family members regarding the significance of adherence to medication is very

important. Effective strategies are needed to improve adherence because non-adherence to psychotropic drugs is an important public health problem which cause relapse and rehospitalization among psychiatric patients.

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