Study of factors affecting Non-compliance to Anti-psychotic medications

Kajal Tanna1*, Sandip Shah2, Lakhan Katariya3
1Assistant Professor, Department of Psychiatry, SBKS MIRC, Piariya, Ta. Waghodia, Vadodara
2Professor, Department of Psychiatry, GMERS Medical College, Gotri, Vadodara
3Associate Professor, Department of Psychiatry, SBKS MIRC, Piariya, Ta. Waghodia, Vadodara

ABSTRACT
BACKGROUND: At present, many patients with psychotic illness become non-compliant, and there are many factors that affect patient compliance. So, we conducted the Study of factors affecting non-compliance to anti-psychotic medications at Psychiatry Department of SBKS MIRC, Piariya, Gujarat, for better understanding of reasons for non-compliance. MATERIALS AND METHODS: From patients attending OPD from 01/01/2010 to 01/07/2011, 100 were selected based on inclusion exclusion criteria, informed consent was taken in patients vernacular language and then were administered Self Structured Questionnaire, containing Demographic Details, Treatment Details, Inquiry regarding Factors affecting non-compliance i.e. Drug related, Patient related & Environmental factors. Data such obtained was entered in Microsoft Excel and analyzed. RESULTS: Average age of Non-compliant patients was about 37 years, 75% of them had Past history of Non-compliance, 18% of the participants gave cost as the reason to stop medication, 8% of patients had stopped medications due to side effects, 70% of the relatives or care givers of the non-compliant patients were either not aware of the chronicity of illness and need to continue medication for long duration. CONCLUSION: Reason for Non-compliance is highly individual thing. No particular factors can be ascribed to as being reason for non-compliance. However, there are things like care-givers knowledge that the medication needs to be taken for a long time is something that prescribing doctor can work for.

Keywords: Anti-psychotics, Non-compliance

INTRODUCTION
For treating any disease, especially Psychotic illnesses, it is very important that the patient sticks to his medications and doesn’t stop the medications. However, many patients become non-compliant for a variety of reasons. There are many Demographic i.e. common in age range of 18-25 yrs1, Sociologic i.e., financial difficulty was a common cause of poor drug compliance1, Treatment related i.e., Medication schedules requiring 4 or more doses per day increasing the possibility of medication non-compliance upto 61%2, and Medication related i.e., unpleasant side effects are common primary reason for refusing medications3. Currently, very less information is available on factors affecting non-compliance. So, we conducted the Study of factors affecting non-compliance to anti-psychotic medications at Psychiatry Department of SBKS MIRC, Piariya, Gujarat. So, that the healthcare providers can take necessary steps to prevent the development of non-compliance and treat the patients better.

Current study was undertaken with following Aims and Objectives:
1. To assess reasons of antipsychotic medication noncompliance in psychotic patients.
2. To identify the relationship of medication noncompliance with demographic and selected variables.

MATERIALS AND METHODS
The current study was a cross-sectional study undertaken at the Department of Psychiatry, Dhiraj General Hospital, S.B.K.S. M.I.R.C., Sumandeeep Vidyapeeth, Piparia to establish “Factors affecting non-compliance to Anti-psychotic medication in patients with Psychotic illness (schizophrenia or schizoaffactive disorders)”, from 01/01/2010 to 01/07/2011, with sample size 100. A. Inclusion criteria: 1. Patients aged 18-65 years. 2. Patients must conform to either of the DSM-IV TR criteria for diagnosis of chronic psychotic illness (Schizophrenia or Schizoaffective disorder). 3. Patients must meet the Working definition of non-compliance. 4. Those Patients who were
Study of factors affecting Non-compliance to Anti-psychotic medications

previously on anti-psychotic medication or suffering from Psychotic illness for at least 6 months and have discontinued medication, for at least a period of 1 month. B. Exclusion criteria: 1. Patients having Organic Psychosis or Delirium. 2. Patients having Psychotic Illness associated with Mental Retardation. 3. Patients suffering from any acute medical condition. 4. Patients not willing to give written informed consent.

Total 100 Patients were selected as per Inclusion & Exclusion Criteria, sequentially, informed consent was taken in patients vernacular language and then were administered Self Structured Questionnaire, containing Demographic Details, Treatment Details, Inquiry regarding Factors affecting non-compliance i.e. Drug related, Patient related & Environmental factors. Data analysis: Data such obtained was entered in Microsoft Excel and analyzed by Epi info, version 3.5, statistical software developed by World Health Organization (WHO) and Center for Disease Control (CDC). Data was mainly analyzed by uni-variate analysis i.e. presenting the data by frequency and percentage. Than data was compared with the data available from previous studies.

RESULTS AND DISCUSSION
A. Demographic details of study participants:
1. AGE - In our study 7% cases were <20years, 24% cases were 20-30 years, 40% cases were 30-40 years, 14% cases from 40-50 years and 15% cases were >50 years with the mean age of the participants was 37.07 yrs, which was comparable to that of a study predicting medication noncompliance after hospital discharge among patients with schizophrenia where the mean ± SD ages of the medication noncompliant and compliant groups were 34.8 ± 9.7 years and 37.6 ± 9.6 years (no significant difference), respectively. While a similar study of non compliant patients have also found the majority of the sample size to be in the age range of 18-25 yrs vs. 30-40 yrs in ours. Though schizophrenia is an illness with onset in adolescence and young adulthood, this may be explained by the finding of studies that consider longer duration of illness to be a factor contributing to non-compliance.

2. Sex - In current study, 57% cases were Females and 43% cases were Males which was in contrast to other studies that found majority of participants to be males (however, majority of the participants in both the compliant and non-compliant groups were males). Dominance of women in the non-compliant sample may be because of our cultural setup, where women are less easily brought for regular follow up due to neglect of their health and multiple roles played by them in family.

3. Marital status - In our study, 57% cases were married, 25% were unmarried, 9% divorced/separated & 9% widow/widower.

4. Residence - In our study, 70% cases were Rural Resident & 30% cases were Urban. Majority of the study participants were married and of lower socio economic status which was comparable to other Indian studies.

5. Religion - In our study, 92% cases were Hindu & 8% cases were Muslim. 70% Patients belonged to Rural Residence and 92% of Patients were Hindus, this mirrors the characteristics of the population from which sample size was taken.

6. Socio-economic class - In our study, 0 cases from Upper S-E class, 5% cases from Upper-middle S-E class, 14% from Lower-middle S-E class, 61% from Upper-Lower S-E class, 20% cases from Lower S-E class were non-compliant.

7. Family type - 41% patients were from Nuclear family, 36% were from Joint family, 19% were from Extended family and 4% were Living alone.

8. Diagnosis - 90% cases enrolled were Schizophrenia and 10% cases were Schizoaffective Disorder.

B. Treatment details of patients:
1. Frequency of Visits(in days) :
Frequency of visit to Clinic in non-compliant patients was - 23% visited clinic every 15 deays, 63% visited every month, 3% visited every 45 days, 9% visited every 2 months and 2% visited every 4 months.
2. Past History of Non-compliance:
In our study, 75% of the cases had a past history of non-compliance. This finding was in line of that reported in other treatment contexts, where past noncompliance proved to be a powerful predictor of future noncompliance. Patients who became medication noncompliant were significantly more likely than those who remained compliant to have been medication noncompliant during the three-month period before the index hospitalization (35 patients, or 85.4 percent, versus 87 patients, or 51.7 percent; \( \chi^2 = 15.4, \text{df}=1, p < .001 \))^6,8. Thus, in-patient staffs who take a careful history of recent medication noncompliance may improve their prediction of who is at risk for stopping their antipsychotic medications.

3. Total number of Tablets per Day & 4. Dosing Frequency:
83% Patinet who became non-compliant were on \( \geq 4 \) tablets a day, 17% were getting \(< 4 \) tablets a day. 10% Patients were receiving OD Dosage, 53% BD Dosage, 34% TID Dosage and only 3% were receiving QID Dosage.

Gottlieb (2000) discussed how complexity of treatment regimens could be responsible for medication non-adherence to a large degree. Patients prescribed one pill per day showed an 81% adherence rate to treatment, while those prescribed 3 pills per day adhered only 77% of the time. The suggested remedy was to prescribe pills dosed once daily in the morning, those prescribed for twice daily dosing be prescribed early in the morning and late at night, those prescribed three times a day can be taken after each meal. Medication schedules requiring 4 or more doses per day have been shown to create an unnatural division of the day for most individuals, increasing the possibility of medication non-compliance up to 61% 2.

In study assessing compliance to treatment in schizophrenia (relapsed cases), dosage schedule of once or twice per day was related to compliance 2 and those required to take 4 doses per day were adhered only 39% of the time 2. This finding was different than ours, as more than half of our non-compliant patients (63%) in the sample were on once or twice daily dosing. Majority of the patients (53%) were on twice a day followed by three times a day dosing (34%) which reflected mostly used prescribing schedule.

The mean number of tablets (psychotropic medications) taken by our study group was 5.68 ± 2.33 and 63% of them were taking at least 5 or more tablets per day. Gottlieb (2000)6 discussed how complexity of the treatment regimens could be responsible for medication non-adherence to a large degree. Patients prescribed one pill per day showed an 81% adherence rate to treatment, while those prescribed 3 pills per day adhered only 77% of the time.

5. Antipsychotics Used & Number and type of Antipsychotics Used:
Data analysis showed that only 27% of participants were on single antipsychotic, rest majority had been on more than one antipsychotics before being non compliant i.e. - 57% were on two antipsychotics, 15% on three antipsychotics and one patient on four antipsychotics. Majority of them were on olanzapine (60%), followed by trifluoperazine (54%), resperidone (24%), aripipraole (17%), amisulpride (13%), haloperidol (12%), clozapine (5%), quetiapine (4%) and least patients were on chlorpromazine (2%).

Multiple responses possible
Out of the sample size of hundred patients, 9 patients were prescribed only typical antipsychotic, 38 prescribed only atypical antipsychotic and nearly half (i.e.- 53 patients) were on both conventional as well as atypical antipsychotic.

Although a non significant trend toward increased compliance was noted in other studies, among patients who received the newer atypical antipsychotic medications9, relation of type of medication to non compliance cannot be made in our study as nearly half of the patients (i.e. - 53%) were receiving both typical and atypical antipsychotics.

6. Other Medications with Anti-psychotics - 81% of the population were also prescribed other psychotropic medication i.e. - anti depressants, mood stabilizers and sedative-hypnotics group of medications, along with antipsychotics. 53% were already on antiparkinsonian treatment irrespective of first or second generation antipsychotics. Similarly, in a prospective, multicenter, non interventional, observational study of outpatients with schizophrenia who required a change in their primary antipsychotic medication because of a physician-perceived risk of nonadherence. Most patients (78.9%) took
concomitant medication for schizophrenia during the study. Benzodiazepines or anticholinergics (58.0%) were the most common concomitant medication taken, followed by anxiolytics, sedatives, or hypnotics (32.4%), mood stabilizers (28.7%), and antidepressants (27.1%). But whether this concomitant use affected non adherence to antipsychotics is unknown.

**C. Medication related factors affecting non-compliance:**
In our study only 8% of patients had stopped medications due to side effects, as compared to others, where unpleasant side effects are commonly cited as a primary reason why psychiatric patients refuse to take medications. However, some researchers have failed to find an association cross-sectional between medication side effects and drug refusal or noncompliance.

In our study, 18% of the participants gave cost as the reason to stop medication. This was also found in other studies in Indian setting, where financial difficulty was a common cause of poor drug compliance.

**D. Social factors affecting non-compliance:**
In our study sample, 70% of the relatives or care givers of the non-compliant patients were either not aware of the chronicity of illness and need to continue medication for long duration or not supervising medication behavior of patient or unaware of consequences of prematurely discontinuing treatment. (MARK OLFSON) The availability of family members who remind patients to take their medications is widely believed to lower the risk of medication noncompliance. Several cross-sectional studies have demonstrated lower rates of medication noncompliance among patients with schizophrenia who live with family members or with people who supervise their medications.

At the same time, patients whose families are ambivalent about antipsychotic medications are at increased risk of medication noncompliance after hospital discharge.

Another reason for medication non-adherence includes the patient’s concept that he or she is not mentally ill and does not need to take medication. Some patients willfully refuse to accept their mental illness. However, some patients have what is called anosognosia, a condition defined as the inability to recognize the presence of a neurological deficit or a mental illness.

Patients’ Compliance was better when the patient had the following beliefs: The patient feels susceptible to the illness or its complication, the patient believes that the illness or its complications could pose severe consequences for his health; the patient believes that the therapy will be effective or perceives benefits from the therapy. On the contrary, misconceptions or erroneous beliefs held by patients would contribute to poor compliance. Patient’s worries about the treatment, believing that the disease is uncontrollable and religious belief might add to the likelihood that they are not compliant to therapy. In patients with chronic disease, the fear of dependence on the long-term medication might be a negative contributing factor to compliance. This is sometimes augmented further by cultural beliefs, such as patients may think that disease is God’s will and uncontrollable; and as a consequence, they perceived less need for medication.

**CONCLUSION**
From the study, while there is no full proof method guarantying the detection of non-compliance, mental health providers can use a variety of strategies for creating individualized plans early in treatment in order to improve adherence. A person’s zone of adaptability will be greatly widened and enhanced if strategies designed to improve medication adherence are applied such as:

1. Improve patient’s understanding of his/her illness.
2. Closely evaluate patients’ attitudes and concerns & rectify them.
3. Create awareness about mental illness among family members/ care givers.
4. Provision of psychoeducation and supportive services.
5. Discuss potential medication side effects before prescribing them.
6. Create medication adherence contract.
7. Improve patient and provider communication.
8. Recognize the need for parenteral therapy.

**REFERENCES**