Medication Non-Compliance and Substance Abuse in Schizophrenia

Sushil Kumar Maheshwari, Sandhya Gupta, Pratap Sharan

Compliance with a prescribed medication regimen is an important factor in determining effectiveness of treatment in schizophrenia. Presence of co-morbid substance abuse (use, harmful use or dependence) is one of the common reasons most consistently associated with medication non-compliance. The rate of medication non-compliance among outpatients with schizophrenia has been reported to be as high as 50 percent whereas it is more than 60 percent in substance using schizophrenic patients. In addition, both medication non-compliance and substance abuse have been associated with frequent relapses, frequent re-hospitalisation, high symptoms, cognitive impairment, poor outcome and increased cost of treatment. This study aimed to examine medication non-compliance and its association with substance abuse among patients having schizophrenia. (The data for this study were collected as part of a master's dissertation).

**Objectives**

This study sought (i) to assess the prevalence of medication non-compliance among patients having schizophrenia, (ii) to associate the medication non-compliance between patients having schizophrenia with and without substance abuse, and (iii) to compare medication non-compliance with selected socio-demographic variables of patients having schizophrenia.

**Assumption**

The assumptions of the study were that patient and their family members will give honest response about their medication non-compliance in questionnaire and during interview, and that medication non-compliance by patient having schizophrenia can be assessed by self-report method.

**Operational definitions**

**Medication non-compliance:** Non-compliance was defined as the extent to which a person's behaviour does not coincide with medical or nursing advice in last six months (<75%).

**Substance abuse:** Use of a substance for a purpose not consistent with legal or medical guidelines, as in the non-medical use of prescription medications as assessed on 'ASSIST' questionnaire (includes use, harmful use or dependence).

**Conceptual framework**

Becker's 'Health Belief Model' (HBM, 1978) was selected to guide the study which postulates that health seeking behaviour is influenced by a person's perception of a threat posed by a health problem and the value associated with the actions aimed at reducing the threat. It provides a way of understanding and predicting how clients will behave in relation to their health and how they will comply with therapies.

**Methodology**

**Research design:** Quantitative, cross sectional survey.

**Setting:** Outpatient clinic, Department of Psychiatry, All India Institute of Medical Sciences, New Delhi.

**Population:** Adult patients who were diagnosed with schizophrenia and seeking treatment/follow-up from selected setting.

**Sample and sampling technique:** Patients meeting the inclusion criteria were selected for the study by sample of convenience method. Sample size consisted of 120 patients with schizophrenia.

**Inclusion criteria**

The categories of patients included were those (i) diagnosed as schizophrenic according to ICD-10 by the treating psychiatrist and Mini International Neuropsychiatric Interview (MINI) by the researcher and taking treatment/follow-up from the selected setting, (ii) in the age range of 18-65 years, (iii) stable (dose of medication had not been altered by more than 50% in the last three months), (iv) willing to participate.

**Exclusion criteria**

Patients who had co-morbid debilitating chronic medical-sur-
gical illness and those with mental retardation or organic mental disorder.

Research tools and techniques used for the study were:

1. **Structured Demographic Schedule**: Used to record socio-demographic details of the patient. Content validity of the tool was established by experts from psychiatry. The reliability was established through test retest method ($r = 1$).

2. **Clinical Profile and Medication Non-compliance Assessment Sheet**: Used to measure the psychiatric illness and medication non-compliance. Content validity of the tool was established by psychiatry experts. The reliability was established through test retest method ($r = 1$). Medication adherence was measured via subjects' self-report and from data abstracted from medical records.

3. **Mini-International Neuropsychiatric Interview (MINI)**: Selected for a short and accurate diagnosis of schizophrenia. Inter-rater reliability coefficient for MINI was excellent ($r = 0.9$).

4. **Alcohol, Smoking and Substance Involvement Screening Test (ASSIST)**: It is a standardised brief questionnaire which was used to screen the patients for hazardous, harmful and dependent use of psychoactive substances. It categorised patients into three groups: never user, past user and current user. It has a high internal reliability with correlation ranging from 0.76 to 0.84 (p<0.01). The test retest reliability coefficient was $r = 1$.

**Ethical clearance**: Approval to conduct the study was obtained from the ethics committee, AIIMS.

**Try out and pilot study**: All the Hindi and English tools were found to be appropriate for population under study during try out. A pilot study was done on 20 patients and found feasible.

**Method of data collection**: Eligible patients were registered and written informed consent was obtained before data collection. Patients were assessed on either Hindi or English version of the assessment tools for data collection. Appropriate referral was made for those patients who were misusing substances.

**Data analysis**: Descriptive statistics i.e. mean, median, percentage, range and standard deviation and inferential statistics i.e. one way ANOVA, Independent t-test, Chi-square, Fisher’s exact, Kruskal-Wallis, Wilcoxon rank-sum test, Spearman’s and Pearson’s correlation were used for analysis of data. Level of significance was set as $p < 0.05$. Data were analysed by using statistical package STATA 9.1 version.

**Major findings of the study**

- Two-fifth (39.2%, n=47) of the patients having schizophrenia were found non-compliant to psychiatric medication regimen in last six months.
- No significant difference was found for age, marital status, religion, current employment status, type of family, years of formal education, annual household income, age of onset of schizophrenia, TDI between compliant and non-compliant group.
- Non-compliant patients were significantly male ($\chi^2 = 11.08$, d.f.=1, $p= 0.001$), doing paid type of work ($\chi^2 = 13.3$, d.f.=2, $p= 0.001$), and residing in rural area ($\chi^2 = 4.37$, d.f.=1, $p= 0.03$).
- Significant substance abuse ($\chi^2 = 18.35$, d.f.=2, $p= 0.001$) was found in non-compliant schizophrenic patients.
- Nicotine was the most commonly used substances by schizophrenic patients followed by alcohol.
- Non-compliant patients were significantly irregular with their OPD follow-up as advised in last six months ($\chi^2 = 16.1$, d.f.=1, $p= 0.001$).
- No association was found for type of onset of schizophrenia, course, number of hospitalisation, co-morbid medical and psychiatric illness between compliant and non-compliant patients.
- No association was found between side effects of antipsychotics experienced by patients and non-compliant patients ($\chi^2 = 0.12$, d.f.=1, $p= 0.7$).

**Discussion**

The finding that medication non-compliance was strongly associated with substance abuse among schizophrenic patients is consistent with the published literature. It may be interpreted in following ways:

- Patients might be self-medicating with psychoactive substances themselves at their homes.
• Patients may experience increased side effects of anti-psychotics which motivate them to use substances.
• Substance abuse might attenuate negative symptoms.
• Patients might not be getting adequate dose of anti-psychotic medication and not getting relief from symptoms.
• As non-compliant patients were residing in rural area, anti-psychotics medication might not be available in rural areas which resulted in substance abuse by patients.

Implications and recommendations

Nursing practice: Nurses should be more committed and consistent in giving psycho-education about the schizophrenia, high risk of substance abuse, side effects of anti-psychotics medications and the importance of adherence before discharge, so that the risk of non-compliance can be minimized.

Nursing education: Field posting in de-addiction centre should be mandatory for all levels of nursing students. More emphasis should be given on medication adherence counselling in the training of the health professionals.

Nursing administration: More staff should be allocated in the OPD for assessment of substance abuse in patients having schizophrenia and medication adherence counselling. There is an acute need for creating a cadre for mental health nurse practitioner in the current health care delivery system.

Nursing research: Standard protocol needs to be developed for medication adherence counselling.

Conclusion

Mental health professionals should be vigilant in detecting co-morbid substance abuse among patients with schizophrenia and encourage them for medication compliance and regular follow-up.

Future research

• Longitudinal design that examines the effects of substance abuse on schizophrenic patients’ symptoms, neuro-cognition and functional outcomes are needed.
• Objective methods for assessing substance abuse can be used.
• Patients not coming for regular follow-up can be studied.
• Protocol for adherence counselling can be developed and tested for improving compliance to treatment.
• Similar study can be replicated in different settings with large sample.

Limitations

The study was undertaken in a single setting and sample was selected on the basis of convenience. Further, those who were not coming for regular follow-up could not be included (who could be with more severe substance abuse). Self report method was used to assess substance abuse and medication non-compliance. Subjects might have underreported both medication non-compliance and substance abuse.

Acknowledgement

This study was awarded one time research grant for the year 2007-08 by TNAI, New Delhi. The authors thank Dr. Manju Vatsa, Principal, College of Nursing, AIIMS, New Delhi.

References