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FACTORS ASSOCIATED WITH TREATMENT NON-COMPLIANCE AMONG INSIGHTFUL SCHIZOPHRENIC PATIENTS IN ST.MARY PSYCHIATRIC HOSPITAL, ERITREA

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ABSTRACT

Background: Non-compliance to antipsychotic medication has a negative impact on the course of illness resulting in increased risk of relapse, re-hospitalization, suicide and increased costs to healthcare system. **Objectives:** The objective of this study was to investigate factors associated with treatment non-compliance among patients with schizophrenia in Eritrea. **Methodology:** A descriptive and analytical cross-sectional study was conducted on 218 insightful schizophrenic patients from 14 November to 30 December, 2016. Data were collected by interviewing a structured standard questionnaire and analyzed using IBM SPSS software version 20. **Results:** Nearly 33% of our study participants were non-compliant to medication. A significant association has been found between non-compliance and younger age group, unemployment, early age of onset. Side-effects of the medication, transportation problem, social and occupational problem, misconception, forgetfulness and stigma were the significant reasons for non-compliance in our study. **Conclusions and Recommendation:** The present study has shown that medication non-compliance was found among patients with schizophrenia. Intervention strategies focused on educating the patients to better understanding the illness, medications and their potential side effects might be useful in improving compliance to antipsychotic medication.

KEYWARDS: Schizophrenia, treatment, non-compliance, insight.

INTRODUCTION

Schizophrenia is a severe form of mental illness affecting about 7 per 1000 adults globally. Although the incidence is low, the prevalence of schizophrenia is high as it is a long-term chronic illness (WHO 2011). A comprehensive reviews around the world reported that the rate of medication non-compliance of schizophrenic patients is as high as 40%−50% (Fawzi, Abdel, Hashem et al., 2012). Treatment non-compliance remains one of the greatest challenges in psychiatry (Mardby, Akerlind, Jorgensen et al., 2007). Despite the critical importance of medication, non-compliance to prescribed treatments has been recognized as a problem worldwide and the most challenging aspect of treating patients with schizophrenia (WHO, 2003). The Ministry of Health (MOH) through one of its arms, Eritrean Pharmaceutical Corporation, buys the drugs from licensed companies at high cost prices. The MOH subsidizes these medicines bought in hard currencies but supplies them freely to clients.Non-compliance to antipsychotic medication has a negative impact on the course of illness resulting in increased risk of relapse, re-hospitalization and suicide, which increases costs of healthcare systems. Non-compliance rate around the world varies differently; in developed countries low non-compliance rate was reported, for instance, a study done in England by Lieberman, Stroup, McEvoy et al. (2005) showed a non-compliance rate of 29%. In developing countries non-compliance rate is slightly high. A study done in south Ethiopia reported 41.1% of patient's non-compliance (Eticha, Teklu, Ali et al., 2015). In Eritrea, there is no baseline recorded data about non-compliance rate of schizophrenic patients. Information taken from records of the psychiatric hospital revealed that schizophrenia is the fifth leading outpatient and second leading inpatient psychiatric disorder, this could be due to drug non-compliance. Therefore, identifying the predictors of non-compliance is the first step to design suitable intervention strategies aimed at preventing or reducing the negative consequences of non-compliance. This study will help in providing baseline information for the high ranking policy about patients' treatment non-compliance and the related factors.

Operational definition

➢ Factor: one that actively contributes to the treatment non compliance

➢ Treatment: is anti-psychotic medicine which has a marked improvement from schizophrenia when taken into the body.

- Non-compliance: defined as the extent to which a schizophrenic patient's behaviour does not confirms to medical or health advice or do not follow the treatment schedule and drug regimens prescribed to them by physician for a month and above.
- Insight: is awareness by a schizophrenic person that their mental experiences are not based in external reality.
- Assess: is to evaluate or estimate the nature, value, or quality of treatment non-compliance factors among schizophrenic patients.
- Associated: is make a conceptual connection in between treatment non-compliance factors among schizophrenic patients and their socio demographic variables.

MATERIALS AND METHODS

Hospital based descriptive and analytical cross sectional study design was conducted from November 14 – December 30, 2016, after the approval from Asmara College of Health sciences and Ministry of Health Scientific and Research Ethical Committee, in St. Mary Neuropsychiatric Hospital, which is found in Southwest of the capital city, Asmara. It is the only referral hospital providing mental health services in Eritrea. Not only it provides health services but also it is a teaching hospital where medical and nursing students practice their clinical sessions. All Schizophrenic patients diagnosed in 2013 and 2014 were used as our sample. A patient was not our candidate to participate if he/she was with no insight, in acute psychotic state (agitated) And with Serious medical condition and mental retardation.

Data collection and Analysis tools

Data were collected using a standard pre-tested questionnaire, which covered thematic areas that includes demographic data of patients and factors related to treatment non-compliance. Medication Adherence Rating Scale and Drug Attitude Inventory-10 scale were the main standard treatment adherence questionnaires which we adopted. Pilot test was conducted to see the validity and reliability of the questionnaire. No gaps were found to be amended. After collection of the data, questionnaire was checked for completeness and consistency and the variables (responses) were coded and entered into IBM SPSS software version 20. Descriptive statistics was used to compare the results among the study groups using frequency distribution count and percentages. A Chi-square test and odds ratio were used to test the significance or the strength of the association at 0.05 significance level.

RESULTS AND DISCUSSIONS

This study attempted to find out the rate of non-compliance and factors associated with treatment non-compliance in insightful schizophrenic patients. Out of the total 218 patients initially considered for the study 24 were excluded based on the fixed exclusion criteria. The final study sample was 194 (100%) out of which 130 (67%) were compliant and 64(33%) were non-compliant to the medication.

The non-compliance rate in our case is lower than a study done in Ethiopia by Eticha, et al. in 2015 that had shown 41.1% of patient's non-compliance. This difference could probably be due to differences in assessing medication adherence methods and sample size used. But it was found to be high comparing to a study done in England by Lieberman and his colleagues (2005) which had reported 29% treatment non-compliance, this difference could probably be due to difference in awareness of patients of our study and English patients towards importance of medication adherence.

Table 1: Shows the association of socio-demographic factors with antipsychotic medication compliance among insightful schizophrenic patients.

Variable	Frequency(n=194)	Percent (%)	Non-compliance (%)
Age group			
20-29	47	24.2	38.3
30-39	60	30.9	36.7
40-49	56	28.9	25.0
50-65	31	16.0	32.3
Marital status			
Single	55	28.4	52.7
Divorced	43	22.2	48.8
Married	73	37.6	12.3
Widowed	23	11.9	21.7
Education			
Illiterate	26	13.4	61.5
Elementary	48	24.7	54.2
Junior	37	19.1	32.4
Secondary	41	21.1	19.5
Higher level	42	21.6	4.8
Have occupation			
Yes	41	21.1	39.0

No	153	78.9	31.4
Religion			
Christian	164	84.5	31.7
Muslim	30	15.5	40.0
Ethnicity			
Tigrigna	141	72.7	30.5
Tigre	33	17.0	33.3
Saho	15	7.7	46.7
Bilen	5	2.6	60.0

The mean age of the respondents was 39.5 years. Non-compliance rate was high among young patients in between 20-29 years old (34.3%). This may be because, with increase in age, patients get experienced with their psychotic illness and they learn that there is a connection between relapse and interruption of anti-psychotic treatments.

Out of the total patients 78.9% had no occupation, among which 31.4% were non-compliant and the difference was statistically significant (p-value < 0.05). This is concurrent with findings in a study done in England by Diaz, Neuse, Sullivan *et al.* (2004). In which non-compliance was found to be statistically significant (*P*= 0.03) among unemployed patients. Better compliance in the employed population could be because patients with schizophrenia had less chances of getting employed, which leads to deterioration of the financial status of the family, makes them more prone to quit the course of medication.

In addition to this, educational level was analysed by grouping in two different levels (illiterate and elementary & junior and above), non-compliance was significantly high (65% Chi-square=37.8, P-value < 0.05) for those patients with elementary and illiterate educational level. Therefore, educational level could be a factor for non-compliance. In this study more than half (52.7%) of the single mothers were non-compliant which was statistically different compared to the married mothers. (Chi-square=30, P-value <0.05). This result could be due to the fact that the married individuals had better social supports in their family than of those who were not married. Therefore marital status could also be another factor for non-compliance.

Medication related factors
The researchers found that most factors associated with treatment non-compliance were fear of side effect 32% and this factor had significant relation to non-compliance (C=54.9, P-value < 0.05,OR11.89,). Similarly a study done in southern Ethiopia lack of awareness to their illness 34% and fear of side effect 30% were the most factors associated with treatment non-compliance (Eticha et al., 2015). Concurrently study done in England by Feuertein, Labbe & Kuegmierezyk (1986) non-compliance to medication was 35%. The reason for non-compliance among the participants in their study were due to discomfort resulting from medication side effects. A prospective study by Janssen, Gaebel, Haerter *et al.*

(2006) in 500 schizophrenic patients in Germany also found that patients who switched from a typical to an atypical antipsychotic medications had a significantly higher rate of medication compliance at discharge than those who did not switch (*p*< 0.001). This could be the usage of typical drugs, which have more extra pyramidal side effects and distresses that contributes to compliance problems. Therefore Psycho education about medication side effects, awareness of their illness and the importance of compliance to treatment is crucial to get the benefits of medication.
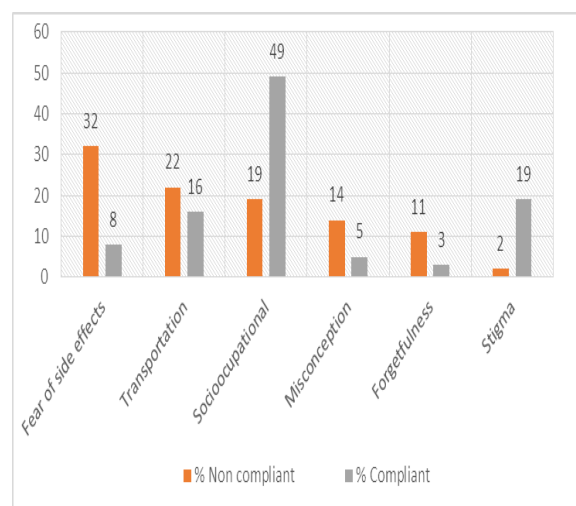

Fig-1: Factors for Non compliance.

Health Care Facility-Related factors
Transportation problem was also another significant factor for non-compliance which accounted for 22% (p-value<0.05). In Eritrea though medicines are provided by MOH free of cost, but many patients didn't comply because of long home-hospital distance which is related to a study conducted in southern Ethiopia by Eticha et al., 2015. If service is within reach of the people, they may benefit themselves of the service more easily.
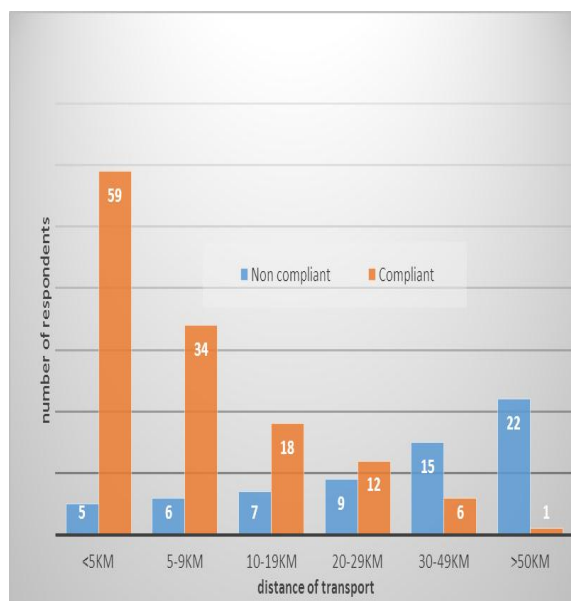
Fig-2: Number of respondents who report on distance to reach to hospital.

Patient related factor
Social and occupational problems are also factors associated with treatment non-compliance which accounted 19% (p-value<0.05). Additionally about 14% (p-value<0.05) of the respondents were having misconception, forgetfulness (11%) and stigma (2%) associated with lack of awareness about the importance of medication compliance, denial of illness and poor acceptance of the treatment which is given by the health providers. A prospective study conducted in England by Hudson, Owen, Thrush *et al.* (2004) indicated that the most common barriers to patient compliance to medication were related to the stigma of taking medication and lack of social support. In Mekele, Ethiopia misconception was a factor of medication non-compliance(Eticha et al., 2015). In other study done in Nigeria 33% the significant reasons for schizophrenic non-compliance were Denial of illness and financial burden(Adewuya, Ola, Mosaku et al., 2006).

Health care provider related factor
In this study non-compliant and compliant patients had a good relationship with their physicians and pharmacist and they trust physicians and consider their help beneficial. A prospective study conducted in Norway by Linden, Godemann, Gaebel *et al.* (2001) found that a good relationship of patients with their physicians. However, adherent patients trusted their physicians significantly more and they expected that physicians would be helpful in treatment (*p*< 0.05).

Table 2: Satisfaction towards physicians and pharmacists.

Variable	Non -compliant	Compliant	Total	Non-compliance rate
Feel satisfied on physician therapeutic approach				
Yes	41	112	153	26.80
No	23	18	41	56.10
Feel get enough information from pharmacist				
Yes	50	98	148	33.78
No	14	32	46	30.43

CONCLUSION
The non-compliance rate of insightful schizophrenic patients was found to be 33%. Fear of medication side effects, transportation problems, socio-occupational problems and misconception about medication were the most common factors that influence medication non-compliance.

RECOMMENDATION
Based on the empirical finding of this study, the following recommendations were made:
- Psycho education should be offered to clients and families as a matter of routing activities in all health facilities as well as in community levels about the nature of mental illness and benefits of medication compliance.
- Health care providers should be aware of mental illness and address this problem because non-compliance is directly related to the prognosis of the illness.
- It is recommended that all efforts should be exerted to improve the compliance with schizophrenic patients by eliminating the factors leading to non-compliance.
- All health facilities should give integrated health services including mental health.

REFERENCES
1. Adewuya AO, Ola BA, Mosaku SK, Fatoye FO, Eegunranti AB. (2006). Attitude towards antipsychotics among out-patients with schizophrenia in Nigeria. *Acta Psychiatr Scand.,* 113(3): 207–11.
2. Diaz E, Neuse E, Sullivan MC, Pearsall HR, Woods SW. (2004). Adherence to conventional and atypical antipsychotics after hospital discharge. *J Clin Psychiatry*. 65: 354–60.
3. Eticha T, Teklu A, Ali D, Solomon G, Alemayehu A. (2015). Factors Associated with Medication Adherence among Patients with Schizophrenia in Mekelle, Northern Ethiopia. PLoS ONE, 10(3): e0120560. doi:10.1371/journal.pone.0120560.
4. Fawzi W, Abdel Mohsen MY, Hashem AH, Moussa S, Coker E, Wilson KC. (2012) Beliefs about

medications predict adherence to antidepressants in older adults. *Int Psychogeriatr.* 24: 159–169.

5. Feuertein, M., Labbe, E.E. and Kuegmierezyk, A.R. (1986) Health psychology: A psychobiological perspective. Pleneum Press, New York.

6. Hudson TJ, Owen RR, Thrush CR, Han X, Pyne JM, Thapa P, et al. (2004)A pilot study of barriers to medication adherence in schizophrenia. *J Clin Psychiatry.* 65(2): 211–216. Doi: 10.4088/jcp.v65n0211.

7. Janssen, B., Gaebel, W., Haerter, M., Komaharadi, F., Lindel, B. and Weinmann, S. (2006). Evaluation of factors influencing medication compliance in inpatient treatment of psychotic disorders. *Psychopharmacology,* 187(2): 229–236. doi: 10.1007/s00213-006-0413-4.

8. Lieberman JA, Stroup TS, McEvoy JP, et al. (2005). Effectiveness of antipsychotic drugs in patients with chronic schizophrenia. *N Engl J Med.,* 353(12): 1209–1223.

9. Linden M., Godemann F., Gaebel W., Kopke W., Muller P., Muller-Spahn F., et al. (2001). A prospective study of factors influencing adherence to a continuous neuroleptic treatment program in schizophrenia patients during 2 years. *Schizophr Bull,* 27: 585–596.

10. Mardby AC, Akerlind I, Jorgensen T. (2007). Beliefs about medicines and self-reported adherence among pharmacy clients. *Patient Educ Couns*. 69(1-3): 158–164.

11. World Health Organization (2003) Adherence to Long-Term Therapies. Evidence for Action. Geneva: World Health Organization.

12. World Health Organization (2011) Schizophrenia. Geneva: World Health Organization.