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# Patient Characteristics and Adherence to Antidepressant Medication Treatment at PsychiatricOutpatient Department of Mardan Medical Complex, Pakistan

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## ABSTRACT

**Background:** Adherence to antidepressant treatment is an important factor in the treatment and effective management of depressed patients. Characteristics of patients can help in determining compliance to treatment protocols. In order to find link between compliance and demographic characteristics of patients, insight can be obtained through exploration of these variables.
**Objectives:** To determine the association between patient characteristics and antidepressant medication adherence. To identify characteristics of patients that may improve or worsen compliance to antidepressant medication.
**Material and Methods:** This study was a descriptive, cross-sectional study aiming to find the link between personal characteristics and adherence to anti-depressant medications. The study was conducted at Psychiatry outpatient department of a tertiary care hospital, Mardan Medical Complex, Mardan Pakistan, from 05th September 2018 to 08th February 2021. Data was collected from 660 patients who presented with depressive symptoms to Psychiatry OPD. The main objective was to identify characteristics of patients leading to poor compliance to antidepressant medication.
**Results:** Total study population was 660. Majority of the study population 82.9 % (n-549) were female. Uneducated were, 56.6 % (375), 81.1 % (n-537) were unemployed, and 65.9 % (n-436) were married. Follow up interviews were conducted in 316 (47.7 %) patients at 3rd week, 186 (28.1 %) patients at 6th week, 130 (19.6 %) patients at 9th week, 96 (14.5 %) patients at 12th week, and 31 (4.7 %) patients at 6 months. There was no significant difference found on the basis of patient characteristics and adherence. However, compliance was better among patients who had longer duration of illness.
**Conclusion:** Medication adherence is a common problem among depressed patients and leads to impaired daily life functioning. Our study could not found any significant difference regarding patient characteristics among compliant and non compliant patients. Educating patients regarding the use of antidepressant medication treatment should be added to routine practice.
**Keywords:** Anti depressants, Depression, Non-adherence, Poor compliance.

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## INTRODUCTION

Depression is a widespread and disabling psychiatric disorder. Evidence suggests that depression is suspected to become the main source of disease burden worldwide by 2030.[1] Episodes of depression leads to chronic or recurring depressive illness posing detrimental consequences on social occupational functioning and entire life span.[2,3]

Compliance to antidepressant medication is necessary for effective treatment outcomes. However poor compliance is common among depressed patients prescribed with antidepressant medications. Successful treatment of depression in clinical practice is not possible due to poor compliance to antidepressant medication in depressed patients.[4,5]

Treatment response in clinical settings is defined as greater than 50 % reduction in the total score on a standardized rating scale for depression.[6]

Depression is added to the top 10 chronic disorders which require medication adherence by the World Health Organization (WHO).[7]

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In clinical settings, patient compliance is defined as the extent to which a patient follows health advice given by his doctor or uses medications in accordance with the given advice.[8]

Non-compliance to medication is due to two reasons, that may be intentional or unintentional. Different factors are involved in the intentional and unintentional medication non-compliance. In most cases, intentional noncompliance is related with patient's motivation, and beliefs about illness and medication. While unintentional non-compliance is related to patient's ability and skills to take medications.[9] Evidence states the common factors for unintentional non-compliance are cognitive problems of patients in having access to treatment, difficulty accessing medications, language barriers and complex therapy modalities. Intentional non-compliance is related to patients' beliefs regarding the treatment including lack of perceived benefit of the treatment, perceptions and fears regarding side effects and lack of trust on the abilities of health care providers.[10] Additionally, partial noncompliance to medication can also pose negative consequences on effective treatment.[11]

In the United states, non-adherence ranges from 29 % to 40 % among older adults.[12,13] Factors that play important role in adherence include age, comorbid medical and psychiatric conditions, beliefs and attitudes towards treatment, fears related to adverse effects of medications, poor knowledge about depression and antidepressant medication, and also because of the negative attitude towards

antidepressant medication widespread among people.[14] Another factor that increases adherence problems is related to the total number of drugs prescribed.[15]

Response to clinical interventions and medications can be boosted by the use of collaborative approach in the decision making for the treatment of psychiatric disorders, especially depression. Studies have yielded positive results in adherence, satisfaction and clinical outcomes with the use of active participation of patients in decision making.[16,17]

Elderly people with depression often have poor medication adherence and higher treatment discontinuation rates due to perceived stigma.[18,19] Some other factors influencing treatment discontinuation includes nature of illness, patients characteristics, side effects of medication, time taken by drug to start effect, and relationship between the patient and doctor.[20]

The findings of a cohort study state that patient's perception and worry about taking anti-depressant medication and their side effects were the factors behind medication non-adherence. Additionally, patient's uncertainty regarding available treatment options for depression, confusion regarding preferred treatment was also a strong factor leading towards medication discontinuation.[21]

Certain demographic characteristics are associated with adherence of the patients and includes age, gender, ethnicity, and educational level. These data are less often explored. One study including 228 patients, found that ethnicity and marital status were associated with adherence to medication.[22]

Medication non adherence leads to poor quality of life, and risk of relapse.[3] Therefore factors affecting patients compliance needs to be found out and tackled at primary level. In this study we are aiming to study the rate of adherence among depressed patients prescribed with antidepressant medication at psychiatric outpatient department of a tertiary care hospital in Mardan. Another aim of our study is to study the relationship between demographic characteristics of patients and adherence to antidepressant medications. This study can give insight into the factors that may play role in improving the adherence of patients to antidepressant medications.

## MATERIAL AND METHODS

This study was conducted in Psychiatry out-patient department of a tertiary care hospital located in Mardan Medical Complex, Pakistan, from 05th September 2018 to 08th February 2021. This was a pilot study. The sample consisted of 660 patients presenting to psychiatric out-patient department through convenient sampling technique. Male and female patients aged 18 or above, presenting to out-patient department with depressive symptoms were recruited using consecutive (non-probability) sampling technique. Patients were enrolled after obtaining consent. Ethical approval was given for the study by ethics approval committee of the hospital dated 23-08-2018, diary number 279/BKMC. Patients fulfilling inclusion criteria were assessed by consultant psychiatrist on the basis of diagnostic criteria for depression according to DSM-V. Those patients fulfilling diagnostic criteria for depression using DSM-5 were invited for participation in the study. Demographic information was obtained using a Performa and standardized tool Hamilton Depression scale was used to assess severity of depressive symptoms. Patients included in the study were advised medication and were followed-up after 3 weeks. Follow up data was obtained at 3rd week, 6th week, 9th week, 12th week and at 6th month of treatment.

### Inclusion and Exclusion Criteria

Patients with confirmed diagnosis of depression by consultant psychiatrist. Patients aged 18 years to 65 years. Patients with other mental illness were excluded. Patients with psychotic depression, bipolar depression, postpartum depression, atypical depression, cognitive impairment, and those with serious medical condition were excluded from the study.

### Measures

Initial interview was conducted by consultant psychiatrist. Those who were screened positive for depression were referred for detailed assessment. Semi-structured interview was conducted to obtain demographic information and ascertain the presence of depression using Hamilton depression rating scale.

### Hamilton Depression Rating Scale

Hamilton Depression Rating Scale was used to assess severity of symptoms of depression among patients presenting with complaints of backache. HAM-D is clinician rating scale widely used to assess severity of symptoms of depression in clinical trials. HAM-D includes 21 items designed to measures severity of depression among those diagnosed as depressed.[22] The scores range from 0 to 62. Score ranging from 0-7 indicates Normal, 8-13 mild depression, 14-18 moderate depression, 19-22 severe depression and >23 very severe depression.

### Data Analysis

Data was analyzed using SPSS version 21. For the descriptive characteristics of patients, frequencies and percentages are presented. Regression analysis was used to determine the relationship between follow up visits and other patient related characteristics.

## RESULTS

The mean age of the sample was 32.19±12.21 with a range of 18-65 years. Among the study population, 82.9

% (n-549) were female and 17.1 % (n-113) were males. More than half of the participants 56.6 % (n-375) were uneducated. Among the participants 65.9 % (n-436) were married, 22.6 % (n-148) were single, 6.2 % (n-41) were engaged, 4.2 % (n-28) were widows, and 1.1 % (n-7) were divorced. Among the participants 81.4 % (n-537) were non-working and 18.6 % (n-123) were employed.

Severe depression was present among 293 (44.4 %), moderate depression was present among 186 (28.1%), mild depression was present among 119 (18.1 %), and minimal depression was present among 62 (9.4%) patients.

Overall, 47.7% (n-316) of patients were compliant with treatment on 3rd week of treatment, 28.1 % (n-186) on 6th week follow up, 19.6 % (n-130) on 9th week follow up, 14.5 % (96) on 12th week follow up, and 4.7 % (n-31) on 6th month follow up.

Regression analysis results shows no significant difference of follow up visits between important characteristics of patients.

**Table 01. Demographic details of patients**

| | Frequency N=660 | Percent |
|---|---|---|
| Male | 113 | 17.1 |
| Female | 549 | 82.9 |
| Total | 660 | 99.8 |
| **Education** | | |
| Uneducated | 375 | 56.6 |
| Primary | 78 | 11.8 |
| Secondary | 52 | 7.9 |
| Matric | 70 | 10.6 |
| FA /FSC | 44 | 6.6 |
| BA/BSC | 29 | 4.4 |
| MA/MSC | 11 | 1.7 |
| M.PHILL | 1 | .2 |
| **Employment status** | | |
| Non-Working | 537 | 81.4 |
| Working | 123 | 18.6 |
| **Marital Status** | | |
| Single | 148 | 22.6 |
| Engaged | 41 | 6.2 |
| Divorced | 7 | 1.1 |
| Married | 436 | 65.9 |
| Widow | 28 | 4.2 |
| **Follow up visits** | | |
| 3rd Week follow up | 316 | 47.7 |
| 6th Week follow up | 186 | 28.1 |
| 9th Week follow up | 130 | 19.6 |
| 12th Week follow up | 96 | 14.5 |
| 6th Month | 31 | 4.7 |

**Table 02. Details of follow up visits**

| | Male (n=113) | Female (n=547) | Single (n=148) | Married (n=436) | Educated (n=285) | Uneducated (n=375) | Working (n=123) | Non-working (n=537) | Total (N=660) |
|---|---|---|---|---|---|---|---|---|---|
| 3rd Week follow up | 52 (46) | 264 (48.2) | 67 (45.3) | 216 (49.5) | 130 (45.6) | 186 (49.6) | 56 (45.5) | 260 (48.4) | 316 (47.7) |
| 6th Week follow up | 28 (24.8) | 158 (28.8) | 41 (27.7) | 128 (29.4) | 81 (28.4) | 105 (28) | 30 (24.4) | 156 (29) | 186 (28.1) |
| 9th Week follow up | 19 (16.8) | 111 (20.3) | 27 (18.2) | 93 (21.3) | 57 (20) | 73 (19.5) | 23 (18.7) | 107 (19.9) | 130 (19.6) |
| 12th Week follow up | 16 (14.2) | 80 (14.6) | 18 (12.2) | 71 (16.3) | 42 (14.7) | 54 (14.4) | 18 (14.6) | 78 (14.5) | 96 (14.5) |
| 6th Month | 5 (4.4) | 26 (4.7) | 5 (3.4) | 22 (5) | 12 (4.2) | 19 (5.1) | 5 (4) | 26 (4.8) | 31 (4.7) |

**Table 03. Regression analysis results of Follow up and patient characteristics**

| Variable | Follow up |
|---|---|
| Age | .150 |
| Gender | .379 |
| Education | .487 |
| Profession | .541 |
| Marital status | .576 |
| R2 | .013 |
| Adjusted R2 | -.006 |
| F | .671 |

## DISCUSSION

The current study aimed to explore adherence to antidepressants medications among depressed patients presenting to psychiatry outpatient department of a tertiary care hospital located in Mardan. Rates of depression were significantly higher among female and married patients. Majority 82.8 % of the study population were female, 65.9 % were married, 81.1. % were un-employed and 56.6 % were uneducated. Severe depression was present among 293 (44.4 %), moderate depression was present among 186 (28.1%), mild depression was present among 119 (18.1 %), and minimal depression was present among 62 (9.4%) patients.

In our study the rate of follow up dropped with duration of treatment. Rates of follow up visits were higher at 3rd week follow up and gradually decreased by double to the end of 6th month follow up visit. Overall, 47.7% of patients came for follow up on 3rd week, 28.1 % on 6th week follow up, 19.6 % on 9th week follow up, 14.5 % on 12 the week follow up, and 4.7 % on 6th month follow up. Similar results are reported from other studies aiming to assess patient compliance to anti-depressant medications. Observational studies found discontinuation rates of antidepressant is 28% at one month and 44% to 52% at three months.[23] In a prospective cohort study examining the impact of patients' anti-depressant medications concerns, treatment preferences and perceptions of their illness only 19% of the initial 147 participants completed their 6-month therapy.[24]

In a prospective naturalistic cohort study of 269 patients with a new diagnosis of depression, patients with negative attitudes about ADMs at entry tended to terminate ADMs in the acute phase more often than patients with positive or neutral attitudes.[25]

Although older adults face structural barriers (e.g., costs of medications, distance from home to physician's office), often negative attitudes are the most important factors affecting adherence.[26]

Our study found no significant association between patient characteristics and adherence to antidepressant medication. However, medication adherence was slightly better among patients with longer duration of illness. A study examining the association between patient demographic characteristics and adherence to antidepressant medication also found that there were no associations between age, gender, education level, depression status, cognitive status or medical comorbidity and class of adherence.[27,28]

Results from past studies conducted in western countries yielded almost similar results. According to one study, approximately 30% of patients discontinue therapy within the first month of initiation of treatment and over 40% discontinue therapy within 90 days of initiation, primarily due to adverse events, thus leading to adverse clinical and economic outcomes.[29] According to a study conducted in India in a tertiary care hospital Kolkata to assess adherence to treatment included 239 patients with unipolar depression, of whom 66.9% (160) were non-adherent and 33.1% (79) were adherent to treatment.[30] The same study found that women were nearly three times at a higher risk of being non adherent compared to men. In our study there was no significant difference in adherence across gender.

## CONCLUSION

We found that there was no significant difference on the basis of patient characteristics between compliant and non-compliant patients. We noted that compliance was better among those patients
who had longer history of illness.

### Recommendation

We recommend that psychiatrists should educate patients regarding compliance to medications. Our study included majority of patients were uneducated, un-employed, married and female. Future studies should focus on proportionality of demographic background of patients.

### Study limitations

Majority of the study population were females, married, uneducated and unemployed. These factors may be responsible for poor adherence. Future studies should select proportionate sample that include nearly equal numbers of patients from different demographical backgrounds.

### Ethical Consideration

This study was approved by the ethical review board of Tertiary Care Hospital, Pakistan.

### Funding

There is no role of any funding agency in this study.

### Conflict of Interest

Authors declared no conflict of interest

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**DATA SHARING STATEMENT:** The data that support the findings of this study are available on request from the corresponding author. The data is not publicly available due to privacy or ethical restrictions.

**AUTHORS' CONTRIBUTION**

The following authors fullfill authorship criteria as per ICMJE guidelines;

| | |
|---|---|
| **Jamal I, Muslim M:** | Substantial contribution to conception and design, drafting the manuscript, final approval, agreed to be accountable for all the work. |
| **Gul E, Manzoor A:** | Substantial contribution to conception and design, data acquisition, drafting the manuscript, final approval, agreed to be accountable for all the work. |
| **Muneeb PM:** | Analysis and interpretation of data, drafting the manuscript, final approval, agreed to be accountable for all the work. |
| **Sumaira:** | Analysis and interpretation of data, critical revision,final approval, agreed to be accountable for all the work. |

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