

Research Article

## Adherence to Antidepressant Therapy: Sociodemographic Factor Wise Distribution

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### ABSTRACT

Medication compliance is a well-established issue in the care of depression. There is evidence that more than 50% of depressed patients withdraw treatment prematurely. Some factors reported to have an important effect on adherence are: poor socioeconomic status, poverty, illiteracy, low level of education, unemployment, lack of effective social support networks, unstable living conditions, long distance from treatment centre, high cost of transport, high cost of medication, changing environmental situations, culture and lay beliefs about illness and treatment and family dysfunction. To study the socio demographic factors that influence compliance to the treatment of depression. The present Cross sectional study was carried out in the department of General Medicine (IP) of Rajiv Gandhi Institute of Medical Sciences (RIMS), Kadapa, AP. A total of 103 subjects were participated in the study during 6 months) & the patients were enrolled to the study according to the inclusion & exclusion criteria, after obtaining Informed Consent Form (ICF). Among the 103 psychiatric patients 31 patients were adherent and 72 patients were non adherent. In our study non-adherence was more unmarried, higher level of education occupy a lower socioeconomic strata and have a history of non-adherence. Our study revealed significant effect was observed only in level of education, and overall various barriers had less significant on non-adherence. Clinical pharmacist's role still remains in psychiatry department for the improvement of patient medication adherence by creating awareness regarding disease and treatment and providing patient counselling services.

**Keywords:** Depression, Antidepressants, Adherence, Non-adherence, Relapse.

### INTRODUCTION

Nonadherence to mental health treatment is related to poor outcomes in any treatment setting<sup>1-3</sup>. Medication compliance is a well-established issue in the care of depression. There is evidence that more than 50% of depressed patients withdraw treatment prematurely<sup>4</sup>. Risk factors differ for non-adherence to mental health referrals. Patients are more nonadherent if they are unmarried, young adult, male, without a contact telephone number, occupy a lower socioeconomic strata, and have a history of nonadherence<sup>5,6</sup>. Some factors reported to have an important effect on adherence are: poor socioeconomic status, poverty, illiteracy, low level of education, unemployment, lack of effective social support networks, unstable living conditions, long distance from treatment centre, high cost of transport, high cost of medication, changing environmental situations, culture and lay beliefs about illness and treatment and family dysfunction<sup>7</sup>. The reasons for non-compliant behaviour are complex and cannot be generalised poor compliance can have severe repercussion in some disease condition. Unintentional overdoses may result in toxicity, serious enough to need hospitalisation. Lack of therapeutic response sometimes may initiate the needless prescription of higher doses or

reassessment of the diagnosis<sup>8,21</sup>. Age is a factor reported as affecting adherence, but inconsistently. It should be evaluated alone for each condition, and, if possible, by the characteristics of the patient and by developmental age group (i.e. children dependent on parent, adolescents, adults and elderly patients)<sup>4</sup>. Adherence to treatment by children and adolescents ranges from 43% to 100%, with an average of 58% in developed countries.<sup>9</sup> Several studies have suggested that adolescents are less adherent than younger children<sup>10</sup>. Poor adherence in adolescents may reflect rebellion against the regimen's control over their lives. Most studies indicate that children and adolescents who assume early sole responsibility for their treatment regimen are less adherent and in lesser control of their disease management. Both sustaining parental involvement and minimizing conflict between adolescents and their parents are valuable in encouraging adherence to treatment regimen<sup>7</sup>. Providing families with information on forming a partnership between the parents and the adolescent is of significant importance in promoting adherence to treatment for this age group. Educational efforts concentrating on adolescents' attitudes towards their disease and its management, instead of predominantly on knowledge acquisition, may be beneficial<sup>7</sup>. Poor

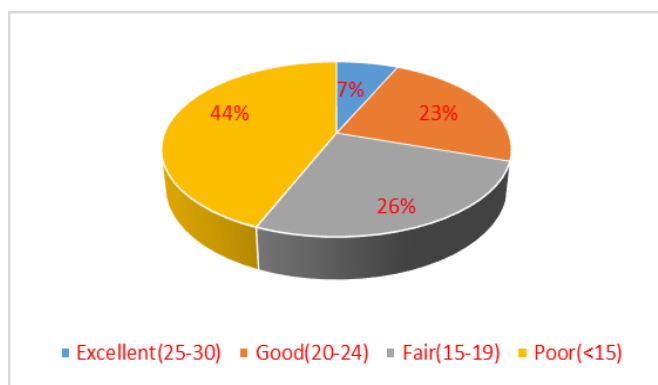


Figure1: Adherence wise distribution

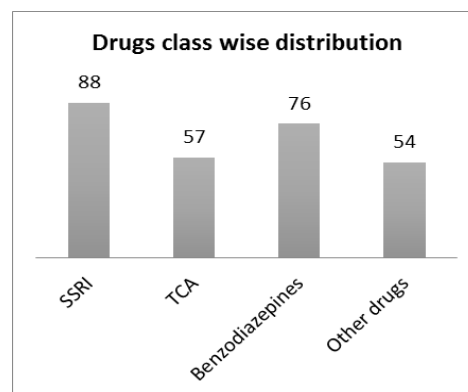


Figure 2: Drug class wise distribution

adherence to prescribed regimens affects all age groups. However, the prevalence of cognitive and functional impairments in elderly patients increases their risk of poor adherence<sup>11</sup>. Multiple co-morbidities and complex medical regimens further compromise adherence. Age-related variations in pharmacokinetics and pharmacodynamics make this population even more vulnerable to problems resulting from non-adherence. Adherence to treatments is essential to the well-being of elderly patients and is thus a critically important component of care. In the elderly, failure to adhere to medical recommendations and treatment has been found to increase the likelihood of therapeutic failure<sup>12</sup> and to be responsible for unnecessary complications, leading to increased spending on health care, as well as to disability and early death<sup>13</sup>. Three socio-economic status variables reflect not only economic, educational and occupational realities for each individual,

but also various personality traits and individual circumstances at different stages of life<sup>14</sup>. Marital status may differentially affect adherence in women and men. It may be that a lack of marital/ social support in men produces a greater need for the social support that professional treatment provides<sup>15</sup>. Socio-economic status and level of education may influence the ways patients perceive their treatments and thereby affect adherence, and unemployment may, as another example, seriously affect the ability and motivation of an individual or family with regard to managing chronic illness and appropriate medical treatment<sup>16</sup>.

Employment has been associated with a larger social network and a better attitude towards drug treatment and adherence to it<sup>17</sup>.

Table1: Socio demographic factors VS adherence

Gender	Adherence	Nonadherence
Male	14(13.59%)	36(34.95%)
Female	17(16.5%)	36(34.95%)
<b>Age</b>		
11-20	2(1.94%)	0(0%)
21-30	6(5.82%)	18(17.47%)
31-40	7(6.79%)	25(24.27%)
41-50	9(8.73%)	19(18.44%)
51-60	6(5.82%)	8(7.76%)
61-70	0(0%)	1(0.97%)
71-80	1(0.97%)	1(0.97%)
<b>Level of education</b>		
Illiterate	14(13.59%)	18(17.47%)
Primary	10(9.70%)	14(13.59%)
Secondary	2(1.94%)	22(21.35%)
Under Graduate	2(1.94%)	9(8.73%)
Graduate	2(1.94%)	5(4.85%)
Post Graduate	1(0.97%)	4(3.8%)
<b>Marital status</b>		
Single	1(0.97%)	11(10.67%)
Married	28(27.18%)	50(48.54%)
Divorced	1(0.97%)	3(2.91%)
Widow	1(0.97%)	8(7.76%)
<b>Occupation</b>		
Employed	2(1.94%)	5(4.85%)
Unemployed	3(2.91%)	11(10.67%)

Table1: Socio demographic factors VS adherence

Student	1(0.97%)	1(0.97%)
Housewife	13(12.62%)	23(22.33%)
Selfemployed	11(10.67%)	26(25.27%)
Others	1(0.97%)	6(5.82%)
Care giver		
Familymember	27(26.21%)	56(54.36%)
No care giver	4(3.8%)	16(15.53%)
Caregiver education		
Illiterate	13(12.62%)	20(19.41%)
Primary	6(5.82%)	6(5.82%)
Secondary	4(3.8%)	14(13.59%)
Under Graduate	1(0.97%)	7(6.79%)
Graduate	3(2.91%)	8(7.76%)
Post Graduate	0(0%)	1(0.97%)
No	4(3.8%)	16(15.53%)
Economic status		
Upper class	0(0%)	1(0.97%)
Upper-middle class	1(0.97%)	2(1.94%)
Middle class	9(8.73%)	33(32.03%)
Lower class	21(20.38%)	36(34.95%)
Type of family		
Single	3(2.91%)	9(8.73%)
Living with spouse	2(1.94%)	5(4.85%)
Living with partner & children	19(18.44%)	42(40.77%)
Living with children	3(2.91%)	6(5.82%)
Joint family	2(1.94%)	3(2.91%)
Living with parents	2(1.94%)	7(6.79%)
Area of living		
Urban	15(14.57%)	32(31.06%)
Rural	16(15.53%)	40(38.83%)
Social stigma		
Present	5(4.85%)	12(11.65%)
Absent	26(25.27%)	60(58.25%)

## RESEARCH METHODOLOGY

The present Cross sectional study was carried out in the department of psychiatry (op) of Rajiv Gandhi Institute of Medical Sciences (RIMS), Kadapa, AP. A total of 103 subjects were participated in the study during (6months) & the patients were enrolled to the study according to the following inclusion & exclusion criteria, after obtaining Informed Consent Form (ICF) from the patient. This study was approved by the ethics committee of the institute.

### Inclusion criteria

Patients men and women aged >18yrs attending the psychiatric OP department with the diagnosis of unipolar depression and who have completed atleast 1month of treatment were included into the study.

### Exclusion criteria

Pregnant womens, HIV patients and patients with other psychiatry disorder are excluded from the study.

### Study materials

The following were the materials which were used during the study:

Questionnaire format (socio demographic factors)

Drug attitude inventory (Hogan et al 1983; Awad, 1993)

Informed consent form

### Methodology

Each patient is assessed for compliance by using drug attitude inventory (DAI) which is a 30 items scale. Patients are categorized in to 4 groups depending upon their DAI scores into excellent (25-30 score), good (20-24 score), fair (15-19 score), poor (<15 score). And further categorized into adherence (>20 score) and Non adherent (<20 score). They were further assessed for factors affecting compliance by using a questionnaire prepared after taking into account sociodemographic factors like:

### Statistical analysis

Data were analysed using SPSS version 16.0 (chi-square test)

## RESULTS

### Adherence wise distribution

Among the 103 psychiatric patients; 44 % have poor adherence and 26% have fair adherence and hence were grouped as non- adherent patients to their treatment regimen. While 23% have good adherence and 7% have excellent adherence and hence were grouped as adherence patients to their treatment regimen.

### Drugs usage among depression patients

SSRI's and benzodiazepines were frequently prescribed medicines with 84.46% and 73.78% respectively. There is no significant effect on adherence with drugs.

#### *Socio demographic factors wise distribution*

Patients with an age group 21-50yrs were more influence on non-adherence. Trend of increase in non-adherence to medication was observed as the level of education increased. Highest non-adherence rates was observed in patients who are living as single. High rate of non-adherence was observed in self-employed and lowest rate was observed in students. Middle class patients was more influence to non-adherence.

#### **DISCUSSION**

In our study, the overall adherence rate (30.09%) is low when compared with non-adherence rate (69.9%) this was in agreement with other studies that occurrence of non-adherence to antidepressants in one study was found to be 66.9%<sup>18</sup>. In our study females were more adherent than males (13.59%), tis was contrary to one study that males are better compliance rate to antidepressants treatment<sup>19</sup>. Age group of 31-40 were non-adherent (24.27%) followed by 41-50 age group (18.44%). Adherence rate was high in 41-50 age group (8.73%) but the overall adherence rate is low. In one study they said that early discontinuation showed no difference according to age and sex, but was more frequent among people who were less educated unemployed, receiving old age pension, in the lower income categories<sup>20</sup>.

When coming to level of education increases the adherence rate decreases and vice versa. A trend of increase in nonadherence to medication was observed as the level of education increased ( $p=0.05$ , chi-square) in our study this is due to the fact that highly educated are feared about the side effects and the long term effects of the drugs due to their limited knowledge about disease and drugs and their un-willingness to discuss with the medical professionals. In an study Patients of lower socioeconomic status, as indicated by low family income and fewer than 12 years of education, were at an increased risk of early antidepressant discontinuation<sup>17</sup>.

Non-adherence was more in lower class patients (34.95%) it was supported by one study that early discontinuation of antidepressants is higher among people of low socioeconomic status<sup>18</sup>.

In our study non-adherence has effect on living in rural areas (38.33%), married patients (48.54%), self-employed (25.27%) and patients with care giver (54.36%).

**CONCLUSION:** Strict adherence is very essential in the treatment of non-curable disease like depression. As the condition may tend to worsen, relapse & requires hospitalization. It is an economical burden for a patient, family & also healthcare system.

Our study revealed significant effect was observed only in level of education, and overall various barriers had less significant on non-adherence. Clinical pharmacist's role still remains in psychiatry department for the improvement of patient medication adherence by creating awareness regarding disease and treatment and providing patient counselling services.

#### **REFERENCES**

1. Melfi CA, Chawla AJ, Croghan TW, Hanna MP, Kennedy S, Sredl K. The effects of adherence to antidepressant treatment guidelines on relapse and recurrence of depression. *Arch Gen Psychiatry* 1998; 55:1128-32.
2. Schumann C, Lenz G, Berghofer A, Muller-Oerlinghausen B. Non-adherence with long-term prophylaxis: a 6-year naturalistic follow-up study of affectively ill patients. *Psychiatry Res* 1999;89: 247-57.
3. Simon GE, VonKorff M, Wagner EH, Barlow W. Patterns of antidepressant use in community practice. *Gen Hosp Psychiatry* 1993;15:399-408.
4. Katon W, Robinson P, Von Korff M et al (1996): A multifaceted intervention to improve treatment of depression in primary care. *Archives of General Psychiatry*,53: 924-932
5. Farid B, Alapont E. Patients who fail to attend their first psychiatric outpatient appointment: Non attendance or inappropriate referral? *J Mental Health* 1993;2:81-3.
6. Olfson M. Primary care patients who refuse specialized mental health services. *Arch Intern Med* 1991; 151:129-32.
7. World Health Organization 2003. ADHERENCE TO LONG-TERM THERAPIES-Evidence for action; pg.no: 28-30
8. H.P .Tipnis and amrita bajaj. *Clinical pharmacy*, 2nd edition, chapter-3, page no: 28-31
9. Burkhart P, Dunbar-Jacob J. Adherence research in the pediatric and adolescent populations: A decade in review. In: Hayman L, Mahom M, Turner R, eds. *Chronic illness in children: An evidence-based approach*. New York, Springer, 2002:199-229.
10. Fotheringham MSM. Adherence to recommended medical regimens in childhood and adolescence. *Journal of Pediatrics and Child Health*, 1995, 31:72-78.
11. Pinzone HA et al. Prediction of asthma episodes in children using peak expiratory flow rates, medication compliance, and exercise data. *Annals of Allergy*, 1991, 67:481-486.
12. Jernigan JA. Update on drugs and the elderly. *American Family Physician*, 1984, 29:238-247.
13. Johnson MJ, Williams M, Marshall ES. Adherent and nonadherent medication-taking in elderly hypertensive patients. *Clinical Nursing Research*, 1999, 8:318-335.
14. Jeynes WH. The challenge of controlling for SES in social science and education research. *Educ Psychol Rev* 2002; 14: 205-221.
15. Jodi Gonzalez, John W. Williams Jr., Polly Hitchcock Noel, and Shuko Lee. Adherence to Mental Health Treatment in a Primary Care Clinic; *JABFP March-April 2005 Vol. 18 No. 2*
16. Clark N, Jones P, Keller S, Vermeire P. Patient factors and compliance with asthma therapy. *Respir Med* 1999; 93:856-862.
17. Mark Olfson, Steven C. Marcus, Michael Tedeschi, George J. Wan. Continuity of Antidepressant

- Treatment for Adults With Depression in the United States; *Am J Psychiatry* 2006; 163:pg.no:105
18. Sohini Banerjee and Ravi Prasad Varma. Factors Affecting Non-Adherence among Patients Diagnosed with Unipolar Depression in a Psychiatric Department of a Tertiary Hospital in Kolkata, India; Hindawi Publishing Corporation, *Depression Research and Treatment*, Volume 2013, Article ID 809542, 12 pages
19. Norifusaswada et al. Persistence and Compliance to antidepressant treatment in patients with depression: A Chart Review. *BMC Psychiatry* 2009. 9:38; Pg.no: 1-10.
20. Hansen DG, Vach W, Rosholm J-U, Søndergaard J, Gram LF and Kragstrup J. Early discontinuation of antidepressants in general practice: association with patient and prescriber characteristics. *Family Practice* 2004; 21: pg.no:627.
21. Basalingappa S, Sharma A, Amarnath S. Basic concepts of therapeutic drug monitoring. *Int. J. Current Pharm. Rev. Res.* 2014; 5(4): 70-75