REVIEW ARTICLE

Attitudes towards taking Medicine among those patients who either received Olanzapine or first generation antipsychotic agents

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ABSTRACT

This project evaluated the attitudes of psychiatric patients towards receiving either olanzapine or the first-generation antipsychotic agents. Newly admitted patients to a state psychiatric hospital who were either prescribed olanzapine (n=35) or other first-generation antipsychotic agents (n=34) were compared on measure of their personal attitudes toward receiving medicines using the Drug Attitude Inventory (DAI). Subjects were evaluated prior to receiving olanzapine and 8 weeks later unless they were discharged or discontinued sooner. The olanzapine-treated group recorded significantly greater improvements on their positive attitude scores toward taking the medicine, and reduced negative attitude scores relative to the comparator group. These results remained statistically significant even after correction of baseline differences between the two groups for the positive attitudes and a statistical trend persisted for negative attitude scores too. During the subsequent 30 month follow-up, significantly fewer of the olanzapine treated subjects (5, 14.3%) were readmitted to the hospital compared with 13 (38.2%) of the comparator group. These data suggest switching patients to olanzapine may improve their attitudes towards taking medicines at least in the short-term. These preliminary data need affirmation or refutation in a controlled random-assignment longer-term clinical trial where specific measures of adherence are evaluated, and where the comparators are the other second generation antipsychotic agents.

Key words: Typical antipsychotics, atypical antipsychotics, attitude, psychiatric patients, Olanzapine

INTRODUCTION

The attitudes of psychiatric patients towards receiving medicines, may be crucial in long term adherence to treatment (Lacro et al, 2002; Loffler, et al., 2003). Due to the higher acquisition costs of newer antipsychotic medicines, the hospital administration was interested in evaluating the initial use of olanzapine by psychiatrists at a state psychiatric hospital, and so this project was done as a quality assurance project. The patients' attitudes towards receiving antipsychotic medicines were evaluated for two treatment groups as noted in the methods section of this paper. The study was approved by the Research Review Board of Mayview State Hospital and the Office of Mental Health and Substance Abuse Services of the Commonwealth of Pennsylvania and also by the University of Pittsburgh Institutional Review Board as an exempt from consent study. The data were first deidentified of all personal identifiers by a volunteer, and then provided to the research team for analyses.

METHODS

Patients

Adult patients are admitted to Mayview State Hospital after failing to improve adequately at a community psychiatric hospital where they would have usually spent up to 4 weeks, and require extended inpatient psychiatric care. Such patients are transferred to the state run psychiatric facility.

The group treated with olanzapine was evaluated once the attending psychiatrist had decided to use olanzapine on a clinical basis for patients with schizophrenia, schizoaffective disorder or bipolar I disorder. None of these subjects had previously received olanzapine. The comparator group included those subjects who received first generation antipsychotic agents and were not switched to another agent at the time of study enrollment or through the period of the project. The comparator group was similar with respect to the approximate date of admission (± 1 week) and diagnosis as for the olanzapine treated group, as were other demographic and illness characteristics, (see Table 1). Subjects chosen for olanzapine were based on the prescribing doctor's clinical choice and patient agreement, and so this was not a random assignment study.

Assessments

The quality assurance assessment for the subjects was the 10-item Drug Attitude Inventory (DAI) (Awad et al, 1995; Hogan, 1983).

The staff member who obtained the Drug Attitude Inventory questionnaire was blind to whether the subject was receiving olanzapine or not. Furthermore, the staff member was not a member of the team that later authored this paper. Nonetheless, it is important to note that the DAI is a patient self-report. Assessments were conducted at baseline and again at 8 weeks. If the subjects were discharged from the hospital or were discontinued from olanzapine sooner than 8 weeks, assessments were done at that time point.

Statistics

The baseline demographic and clinical variables between the two treatment groups were evaluated using either the Pearson's 2 test or Fishers Exact Test for categorical data or the independent sample "t" test for

TABLE 1 : Demography and Illness Characteristics of the Study Cohort1

	Olanzapine Group (n=35)	Comparator Group (n=34)
Age in Years		
Mean + SD	41.5 + 9	42.4 + 12
Gender M/F	19/16	16/18
Ethnicity - Caucasian/African American/Asian	25/10/0	23/9/2
DSM IV Diagnosis		
Schizophrenia	21	22
Schizoaffective Disorder-Depressed Type	9	8
Schizoaffective Disorder-Bipolar Type	3	3
Bipolar I Mania	2	1
Age at Onset (Hospitalization)		
Mean Years + SD	23.1 + 7	22.9 + 8
Length of Illness		
Mean Years + SD	17.6 + 9	17.5 + 10
Number of Previous Hospitalizations		
Mean + SD	13.6 + 15.7	10.4 + 6

1None of the demographic or illness characteristics were statistically significantly different between the two treatment groups.

normally distributed continuous data. Between group comparisons for continuous data were evaluated using the independent sample "t" test. All analyses were accepted for statistical significance at a two-sided alpha level of 0.05, and a trend between 0.05 and 0.10.

RESULTS

Patient Demography and Illness Characteristics

The study cohort comprised of 69 subjects, 35 subjects received olanzapine and 34 subjects received the first-generation antipsychotic agents. (See Table 1). Data from one comparator subject could not be obtained after the baseline assessments and was hence excluded. The mean age for the group was nearly 42 years, and the DSM IV (American Psychiatric Association, 1994) diagnoses were schizophrenia (n=43), schizoaffective disorder (n=23), and bipolar I disorder (n=3). Nearly, a third of the group was of African American ethnicity, and nearly half of the subjects were women. The age at onset (first hospitalization) and the duration of illness were similar in both groups, and both groups had been hospitalized frequently. The mean daily maximum dose of olanzapine was 15.2 mg (SD 5.4, range 5 to 20 mg), and the comparator group received 937 mg (SD 648) chlorpromazine equivalents daily (Davis et al, 1983). These first generation antipsychotic agents included haloperidol, thiothixene, trifluoperazine, perphenazine and thioridazine. The patients (bipolar and schizoaffective disorder) receiving either lithium or divalproex sodium as mood-stabilizers continued to receive those agents unchanged in dosage, and similarly the subjects receiving antidepressants continued those agents unchanged.

Drug Attitude Inventory (DAI) (see Table 2)

The olanzapine-treated group recorded a lower mean positive attitude score and a higher mean negative attitude score than the comparator group at baseline (t=-2.95, df=65, p=0.004, and t = -2.90, df = 65, p = 0.005, respectively). At the Week 8 ratings, the olanzapine-treated group had statistically significant improvements in the mean positive attitude scores compared to the control group (t=2.4, df=60, p=0.02), and this difference remained significant when statistically corrected for differences in the baseline scores. The percentage change from baseline in the positive attitude score for the olanzapine treated group was 25.5% whereas it was only 3.6% for the comparator group (see Figure 1). Similar results were obtained for the negative attitude scores towards the medication with the olanzapine-treated group experiencing statistically significant decreases (i.e. improvement) as compared to the comparator group at 8 weeks (t=-2.3, df=65, p=0.03), and a statistical trend persisted when corrected for baseline differences (t=-1.89, df=65, p=0.065). The percentage change from baseline in the negative attitude score for the olanzapine treated group was 22.6% whereas it was only 4.5% for the comparator group.

All patients were discharged from the hospital, and the number of subjects who were re-admitted to the facility in a 30-month period were enumerated. Five (14.3%) of the 35 olanzapine treated subjects and thirteen (38.2%) of the 34 subjects treated with the first generation agents were re-admitted (Fisher's exact test, p = 0.03). One of the reasons noted for re-admission in nearly all the eighteen charts was "non-compliance", and over half the charts also noted alcohol or drug abuse-dependence (n = 9) as possible contributing factors. Side-effects such as excessive weight gain, extrapyramidal side-effects or others were not specifically reported in the charts, and the re-admitted patients were not specifically evaluated again for their attitudes towards taking medicines.

DISCUSSION

This study suggested patients had improved positive attitude and lower negative attitude scores after they began olanzapine treatment. Ostensibly, this positive attitude could lead to longer-term medication adherence by patients though this issue was not specifically assessed in this study. Nonetheless, a surrogate marker was the rate of re-hospitalization, which was significandy lower in the olanzapine treated group. The lack of insight, or the occurrence

TABLE 2 : DAI Ratings and Hospital Privileges at Baseline and Week 8*

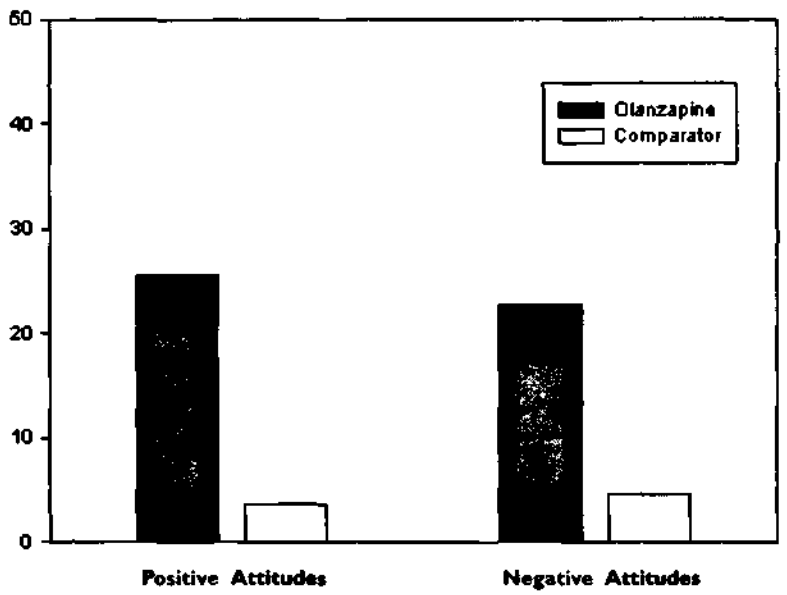
Rating Scale	Olanzapine		Comparator Group	
	Baseline n=35	8 Weeks n=33	Baseline n=34	8 Weeks n=31
DAI				
Positive Attitude	4.7 + 1.4a	5.9 + 1.5b	5.6 + 1.4	5.8 + 1.5
Negative Attitude	5.3 + 1.3a	4.1 + 1.5b	4.4 + 1.5	4.2 + 1.5

At baseline, the group that later received olanzapine had higher mean negative attitude scores and lower mean positive attitude scores towards taking their medication as compared to the control group.

$p<0.05$ change from baseline scores favoring olanzapine over the control group. After correction for baseline differences, the statistical significance for the positive attitude scores persisted for the olanzapine group, and a trend was noted for the negative attitude scores in favor of the olanzapine group.

* A few subjects in each group had missing scores at the 2 time points. (n = 2 in the olanzapine, n = 3 in the comparator group.

FIGURE 1 : Present Improvement in Scores on Positive and Negative Attitudes (DAI) of Patients receiving Either Olanzapine or First Generation Antipsychotic Agents



of the side-effects of first generation antipsychotic agents such as akathisia, Parkinsonian side-effects, or tardive dyskinesia, or the lack of efficacy are among several factors why patients may not like the medicines they receive, and this is likely to impact on long term adherence to treatment (Loffler et al., 2003). The discontinuation of antipsychotic medications and severe relapses and re-hospitalization is all too familiar to most clinicians. In a follow-up period of 30 months, significantly fewer olanzapine treated subjects were re-hospitalized in this study though unfortunately their attitudes towards medicines were not assessed long term or at readmission.

The limitations of this study include a non-randomized design, a small sample size, the first generation antipsychotic agents were lumped together as one class and finally, the positive and negative attitude scores were unequal between the groups at baseline, no comparisons were conducted with other second-generation antipsychotic agents. At the initiation of this quality assurance project, only risperidone was available as a first line newer antipsychotic agent. Clozapine was reserved for treatment refractory or neuroleptic intolerant patients. Also, it is possible that a longer study design may have noted that some subjects gain substantial weight on olanzapine treatment, and this may have impacted on overall adherence to treatment. As this study was not a random assignment clinical trial, it is entirely possible that patients being switched to a newer agent such as olanzapine were dissatisfied with their previous treatment, and so the medication change may have led to an expectation that conditions would get better, and so they rated themselves positively when they were switched to olanzapine. This argument has merit, as the negative attitude scores of those subjects who were switched to olanzapine were in fact greater than their counterparts who were not switched.

In spite of these limitations, it may be useful to consider switching to antipsychotic agents that patients may favor taking on their own and without overt or covert coercion. In the context of the doctor-patient relationship, it may be crucial to remember there is no way to tell, whether an oral drug is either effective or not, or causes side effects until the patient actually takes the prescribed medicine. Put another way, the patients' preference and attitudes to taking a particular medicine is very important. Consequently, as clinicians we would be well advised to discuss with patients their personal attitudes and preferences towards different medicines even if it means that some patients will readily prefer to take 'no medicines' at all.

In summary, subjects switched to olanzapine treatment at a state psychiatric hospital recorded improved attitudes toward taking medication as compared to those who were treated with the first generation agents. These results are similar to the data of another naturalistic study conducted in Spain that compared olanzapine, risperidone and haloperidol monotherapy (Garcia-Cabeza

et al, 2001). Olanzapine treated subjects achieved significantly higher DAI positive attitude scores than those treated with either risperidone or haloperidol (Garcia-Cabeza et al, 2001) Finally, improved attitudes toward taking olanzapine may result in greater long term adherence though this needs to be tested in a controlled randomized clinical trial with specific adherence measures.

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DECLARATION OF INTEREST

The preparation of this report was done in the context of the public-academic liaison between Western Psychiatric Institute and Clinic - University of Pittsburgh and Mayview State Hospital, for which no monies were paid. However, three authors (KNR Chengappa, H Parepally, JS Brar) have received research grant support from Eli Lilly and Company for various studies conducted over the past 8 years. Further, two of the authors (KNR Chengappa and H Parepally) have served on the speaker's bureau of Eli Lilly and Company for which they have received compensation. Eli Lilly and Company is the manufacturer of olanzapine in the U.S.A. at the time of writing this manuscript.

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