



Drug attitude Vs compliance therapy among patients with schizophrenic in tertiary care hospital, South India.

Kumaravel Bagavathi, ¹Srinivasan chelladurai, ¹ Saravanan S, ²

PhD Scholar, Vinayaka Mission Reasearch Foundation – Deemed University, Salem, Tamil nadu, India.¹

Tutor, College of Nursing, AIIMS, Deoghar, Jharkahant, India.¹

Department of Mental Health Nursing, Dhanvantri College Of Nursing, Namakkal, Tamil Nadu, India.²

Abstract:

Background: Schizophrenia is characterized by irregular, alternating episodes of exacerbation and remission of psychotic symptoms. In schizophrenic patients, medication non-adherence is highly prevalent. Many strategies have been used to increase medication adherence. It has been demonstrated that compliance therapy can enhance drug attitudes towards medication use and change negative perceptions of drugs.

Methods: A study was carried out to evaluate the efficacy of compliance therapy in a setting of acute care. In accordance with DSM-IV criteria, 50 patients (25 in each group) with schizophrenia underwent a four-week treatment period lasting 30 to 40 minutes each day, followed by three weeks of weekly telephone follow-up sessions. The patients were selected from consecutive admissions to an acute in-patient facility. The updated Drug Attitude Inventory (DAI-10) version was used to rate the primary outcome measures.

Results:

The study results showed that comparing compliance therapy to standard care found compliance therapy to significantly improve drug attitude. (Drug Attitude Inventory the median difference between groups: $T = -6.06$, $p < 0.001$. When associating with demographical data, a significant association was obtained between the drug attitude scores and duration of illness ($\chi^2 = 6.00$) in the experiment group and family history of mental illness ($\chi^2 = 3.88$) in the control group.

Conclusion:

The current study discovered that compliance therapy positively impacted attitudes toward medication patients with schizophrenia. This finding may help healthcare providers provide compliance therapy and standard treatment to improve the attitude toward medication when treating patients with schizophrenia to reduce relapse and better drug adherence.

Keywords: Attitude Drug Inventory, Compliance therapy, schizophrenia.

INTRODUCTION:

One in four households includes at least one member who has a mental disorder, and 450 million people worldwide experience mental or behavioural disturbances.¹ Schizophrenia, one of the major mental illnesses, is a chronic sickness that affects people during their most productive years of life. Schizophrenia is a severe mental illness characterized by severe distortion of thinking, reality perception, and emotion² Schizophrenia is a serious public health issue due to its early onset age, varied clinical course, and persistent and chronic character. By resulting in difficulties in self-care, social connections, learning, working, and leisure skills, it has an impact on social participation and quality of life.^{3, 4} Antipsychotic medications are a mainstay of treatment for schizophrenia and are useful in symptom management and relapse prevention.^{5, 6} According to studies, between 25% and 80% of all people with schizophrenia fail to take their medications as prescribed.^{7, 8, 9} It is clear that non-adherence to medicine is linked to greater risks of relapse and subsequent re-hospitalization.¹⁰ Therefore non-compliance has been strongly emphasized and is of great concern to psychiatric professionals.

According to research, individuals with schizophrenia can respond to medicine in one of three ways: positively (17%), negatively (53.3%), or without having an opinion. Patients with schizophrenia in particular had negative thoughts about taking medication that were mostly connected to worries about physical effects, side effects, cognitive impacts, perceptions of the medication's effects, and being controlled. Negative beliefs include things like "taking it to please your doctor," "it makes you dizzy," and "it makes you feel jittery or tremble."¹¹

The goal of compliance therapy is to enhance drug attitudes towards medication use by modifying negative perceptions about medications.¹² Uncertainty exists regarding the impact of compliance therapy on patients with schizophrenia's drug attitudes. As a result, medication compliance is crucial for those who have schizophrenia. The definition of compliance given by the dictionary is "the extent to which a person's behaviour (in terms of taking medication, following a diet, or changing their lifestyle) coincides with medical or health advice."¹³ This study aims to assess the effectiveness of compliance therapy in changing the drug attitude among people with schizophrenia in tertiary care hospitals in south India.

2.1 Method & participants

This prospective, quasi-experimental trial was conducted at Government Head Quarters Hospital (Mohan Kumaramangalam Medical college) at Salem, Tamil Nadu between December 2021 to June 2022. The study population was drawn from consecutive acute admissions with DSM IV-R (American Psychiatric Association, 1987) diagnosed schizophrenia aged 20-60. Non-Tamil speakers, patients with significant learning disabilities, deafness or organic brain diseases were excluded. Written informed consent was obtained from the subjects after thorough explanation of the study to them.

Patients were randomly assigned to the intervention consisting of 4 weeks of compliance therapy, lasting 30-40 minutes, or the control treatment consisting of an equal number of sessions of supportive counseling. The investigators spent 2 to 3 hours overall on average with each patient. In the control condition, patients were free to bring up any questions or problems for discussion, but when medication-related difficulties came up, they were told to bring them up with their medical teams. Both therapies were in addition to the regular care patients received while hospitalised (which included proper instruction and informal talks about the therapies by the treating teams).

All subjects received routine after-care following hospital release, as decided by their respective clinical teams. After three weeks of weekly telephone follow-up sessions, booster sessions of compliance treatment or general counselling were provided. We conducted both groups' pretests before beginning the intervention. Following the follow-up intervention at the time of review, a post-test was administered during the fourth week using the same evaluation methods. Both the experimental and control groups had in-person pre- and posttesting.

2.2 Sample size: The sample size comprises of 50 schizophrenic patients. Power analysis was used to estimate the sample size based on the findings of the previous study with the assumption of 90% power. The power calculation was based on alpha 0.05 and expected attrition rate at 10%. The estimated total participants will be N= 50, in which 25 samples in experimental group and 25 in control group, (n1=25, n2=25).

2.3 Intervention:

Four weeks of compliance therapy were given, divided into the following two phases

Phase I: The patient's medical history was examined to determine how the patient conceptualized the condition and how they felt about receiving treatment. Where possible, an effort was made to draw a connection between medication stoppings and relapse. Treatment failures were noted. Gentle inquiry concerning the resulting social repercussions or lifestyle disturbance was used in response to denial of sickness or the need for treatment.

The exploration of treatment ambivalence continued. The researcher openly anticipated some frequent reluctance to receive treatment, including worries about addiction, losing control, and losing one's personality. Patients occasionally mix up symptoms and side effects, but misconceptions can be cleared up.

Phase II:

The patient's symptoms were used as input for the diagnosis and treatment. The emphasis was on the indirect advantages of medication, such as improving interpersonal relationships. There were metaphors, including the idea of medicine as a "protective layer." The investigator tried to induce cognitive dissonance in the patient by showing him or her that poor compliance is genuinely detrimental to their needs, way of life, and objectives.

The general illness prevalence of the condition has been demonstrated with instances of sufferers, and comparisons with physical illness requiring maintenance therapy were offered. Medication use is reframed as a freely selected method to improve quality of life. The researcher stressed the need of keeping good health in order to fill important sources of fulfillment and achieve specific self-identified goals. When early intervention could forestall a full-blown episode, the effects of ceasing medication were predicted, and distinctive prodromal signs were discovered.

2.4 Assessment instrument

The symptoms of schizophrenia, insights, side-effects, the satisfaction with antipsychotic medication and attitudes towards medication were used differently with different scales in this study the level of drug attitude will be assessed by Drug Attitude Inventory (DAI-10) revised version The DAI-10 uses a 4-point Likert scale to grade the assertions, with 1 denoting disagreement, 2 indicating some agreement, 3 indicating substantial agreement, and 4 denoting complete agreement..(Pomykacz B, et al. *Harv Rev Psychiatry*. 2007).¹⁴

2.5 Statistical analysis

Non-parametric statistical tests were used because the majority of the variables were not normally distributed. Comparisons of baseline data between two groups were made using the Mann-Whitney U test for continuous variables while the χ^2 test was used for categorical variables. The Mann-Whitney U test, which computes the score change for each outcome by deducting the pre-test score from the post-test score, was used to compare the score changes in the outcome variables between the two groups. Within a group, the Wilcoxon-signed rank test was used to compare the scores between the pre-and post-tests. P 0.05 was regarded as statistically significant for all statistical analyses, which were carried out using the computer programme SPSS 17.0.

2.6 Ethical considerations

The Government Head Quarters Hospital in Salem, Tamil Nadu's Institutional Human Ethical Committee gave its approval to the study. Written informed consent was obtained from the subjects following a thorough explanation of the study to them. (Ref No: 8194/ME1 (PG)/2021. Dated with 29/12/2021

RESULT:

Demographics and clinical characteristic:

A total of 50 (25+25) patients participated in the study. Predominantly, males in both group ($n = 35$, 70%) were present than females ($n = 15$, 30%). The age half of the patients fall in the age group of 20-40 years respectively [13, (52%), 14 (56%)]. Socio-demographic profile of the patients is illustrated in [Table 1](#).

Drug attitude:

Table 2 shows significant improvements after the four weeks of compliance therapy in the experimental group compared to the standard care group, as demonstrated by the DAI median values.

The experimental group's Wilcoxon signed-rank test results for the pre- and post-tests revealed unfavourable differences in drug attitudes that were statistically significant ($Z = -4.37$). When calculating the drug attitude within the control group, non-significant ($Z = -1.45$) negative differences were observed. The Mann-Whitney U test also demonstrated statistical significance ($T = -6.06$) with negative variations in post-test scores on drug attitude. This test was conducted between the experimental and control groups. It suggests that the groups' differences were quite noticeable. **Table 3.**

Association between DAI scores and selected demographical variables:

The Chi-square analysis indicated that a significant association was obtained between the drug attitude scores and duration of illness ($\chi^2=6.00$) in the experiment group and a family history of mental illness ($\chi^2=3.88$) in the control group. In both groups, there was no significant association between other socio-demographic variables (age, education, religion, marital status, family monthly income, and type of family, residence) and post-DAI score. The details are illustrated in **Tables 4 & 5**.

DISCUSSION:

According to the distribution of background variables in the experimental and control groups by age group, the majority of participants (52% & 56%, respectively) were between the ages of 20 and 40. This result is marginally supported by the mean age of the schizophrenic patients with 42.1 ± 0.929 years on attitudes toward antipsychotic medication.¹⁵

Three randomized control trials and a quasi-experimental study have looked at the efficacy of compliance therapy in schizophrenia patients using various methods, per the literature already in existence.^{10, 17, 18} Nevertheless, the outcomes varied. In 47 patients with psychosis, previous studies compared the effectiveness of compliance therapy and non-specific counseling. The findings demonstrated that, in comparison to the control group, compliance therapy had considerably improved patients' attitudes towards medicine, insight, and overall function.^{14,17} Similarly our study also found that comparing standard care; compliance therapy had significant improvement on patient's attitude towards medication.

Another study that looked at the efficacy of compliance therapy discovered that it greatly changed people's attitudes towards medicine and general psychotic symptoms.¹⁸ But, O'Donnell and colleagues found, however, that compliance therapy may not be advantageous for patients with schizophrenia. One more meta-analysis also revealed that there is no clear evidence the compliance therapy on adherence to anti-psychotics among schizophrenia patients.¹⁹

Similar findings with Wilcoxon signed-rank test scores of 4.53 in experimental samples from China indicated statistical relevance of compliance therapy on drug attitude. And 3.60 in the control group, with Mann-Whitney U-test demonstrating statistical significance (1.30) in both groups.¹⁶ The design of compliance therapy is mainly to improve medication compliance by changing negative drug attitudes in people with schizophrenia. But the outcome measurements on the effectiveness of compliance therapy from these previous studies are diverse. However, Current study strengthens the effectiveness compliance and drug attitude among mental illness patients.

Limitations and strength of study

Non-probability sampling technique and one-time assessment were done with no subsequent follow-up like the previous study 3, 6, and 12-month reviews. As the experiment was conducted only with schizophrenic patients in the single tertiary care setting, with a limited sample size, generalization of the results is limited to the population of similar demographical backgrounds.

Despite these drawbacks, our investigation reveals certain distinct advantages. First, a gold standard screening tool, the DAI (10) was used in this study which is widely used around globally, in the context of drug attitude and mental health research. Second, participants were screened for schizophrenia before enrolling the research.

Conclusion:

Early intervention of compliance therapy along with standard treatment among patients with schizophrenia will improve the attitude towards medication; reduce relapse and better drug adherence. Compliance therapy will be an appropriate strategy to improve the overall mental illness care and management.

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Conflicts of interest

No conflict of interest can be reported at this time

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Table 1: Socio-demographic profile of study participants

(n -25+25)

| S.NO | BACK GROUND VARIABLES | CATEGORIES | EXPERIMENTAL GROUP | | CONTROL GROUP | |
|------|----------------------------------|----------------------|--------------------|----|---------------|----|
| | | | No 25 | % | No 25 | % |
| 1 | Age | 20-40 years | 13 | 52 | 14 | 56 |
| | | 41-60 years | 12 | 48 | 11 | 44 |
| 2 | Education | No formal education | 11 | 44 | 13 | 52 |
| | | Schooling | 2 | 8 | 3 | 12 |
| | | Graduate | 12 | 48 | 9 | 36 |
| 3 | Religion | Christian | 3 | 12 | 3 | 12 |
| | | Hindu | 19 | 76 | 17 | 68 |
| | | Muslim | 3 | 12 | 5 | 20 |
| 4 | Marital status | Married | 10 | 40 | 20 | 80 |
| | | Un Married | 10 | 40 | 2 | 8 |
| | | Separated / divorced | 5 | 20 | 3 | 12 |
| 5 | Family monthly income | Below Rs.5000 | 10 | 40 | 15 | 60 |
| | | Above Rs.5000 | 15 | 60 | 10 | 40 |
| 6 | Family Type | Joint | 11 | 44 | 10 | 40 |
| | | Nuclear | 14 | 56 | 15 | 60 |
| 7 | Residence | Urban | 8 | 32 | 16 | 64 |
| | | Semi urban | 10 | 40 | 2 | 8 |
| | | Rural | 7 | 28 | 7 | 28 |
| 8 | Duration of Illness | Less than one year | 6 | 24 | 7 | 28 |
| | | 1- 2 Years | 9 | 36 | 10 | 40 |
| | | 2-3 years | 10 | 40 | 8 | 32 |
| 9 | Family history of mental illness | Yes | 1 | 4 | 3 | 12 |
| | | No | 24 | 96 | 22 | 88 |

Table: 2 Pretest and posttest scores on drug attitude Inventory

N-25+25

| Level of drug attitude | Experimental group | | | | Control group | | | |
|------------------------|--------------------|----|----------|----|---------------|----|----------|----|
| | Pretest | | Posttest | | Pretest | | Posttest | |
| | F | % | F | % | F | % | F | % |
| Positive attitude | 5 | 20 | 8 | 32 | 6 | 24 | 7 | 28 |
| Neutral attitude | 12 | 48 | 11 | 44 | 10 | 40 | 10 | 40 |
| Negative attitude | 8 | 32 | 6 | 24 | 9 | 36 | 8 | 32 |

Table: 3 Comparison of median, Wilcoxon signed rank test, Mann–Whitney U test value with Pre and posttest scores of drug attitude between experimental and control group.

| Variable | Group | Median (25 – 75 Percentile) | Significance Wilcoxon signed rank test | | Significance Mann–Whitney U test | |
|---------------|-------------------------|-----------------------------|--|------------------------------|---|-----------|
| | | | Experimental group Pre – Posttest | Control Group Pre – Posttest | Experimental and Control group Posttest | |
| Drug attitude | Experimental – Pretest | 22 (22-23) | Z = - 4.37 P < 0.001 | Z = - 1.45 P > 0.14 | Median= 34 | Median=26 |
| | Experimental – Posttest | 34 (32-35) | | | T = -6.06 P < 0.001 | |
| | Control - Pretest | 23 (21-25) | | | | |
| | Control - Posttest | 26 (24-28) | | | | |

Table: 4 Association of level of Drug attitude with selected demographic variables. (Experimental group)

n-25

| S. No | Background variables | Categories | Drug attitude level in experimental group | | | χ^2 - value, df, p-value |
|-------|----------------------------------|----------------------|---|---------|----------|-------------------------------|
| | | | Positive | Neutral | Negative | |
| | | | % | % | % | |
| 1 | Age | 20-40 years | 17 | 20 | 14 | 0.26, df=1, p=0.60 |
| | | 41-60 years | 15 | 24 | 10 | |
| 2. | Education | No formal education | 12 | 12 | 10 | 2.50, df=2,, p=0.11 |
| | | Schooling | 10 | 17 | 7 | |
| | | Under graduate | 10 | 15 | 7 | |
| 3. | Religion | Christian | 7 | 11 | 4 | 1.66, df=2, p=0.19 |
| | | Hindu | 15 | 19 | 8 | |
| | | Muslim | 10 | 14 | 12 | |
| 4. | Marital status | Married | 15 | 25 | 3 | 1.01, df=2, p=0.31 |
| | | Un Married | 9 | 11 | 7 | |
| | | Separated / divorced | 8 | 8 | 14 | |
| 5. | Family monthly income | Below 5,000 | 7 | 10 | 13 | 3.53,, df=1, p=0.06 |
| | | Above 5,000 | 25 | 34 | 11 | |
| 6. | Family Type | Joint | 19 | 17 | 17 | 0.67, df=1, p=0.41 |
| | | Nuclear | 13 | 27 | 7 | |
| 7. | Residence | Urban | 4 | 6 | 8 | 0.23, df=2, p=0.62 |
| | | Semi urban | 18 | 16 | 7 | |
| | | Rural | 10 | 22 | 9 | |
| 8. | Duration of Illness | Less than one year | 9 | 7 | 9 | 6.00, df=2, p=0.01* |
| | | 1- 2 Years | 13 | 27 | 2 | |
| | | 2-3 years | 10 | 10 | 13 | |
| 9. | Family history of mental illness | Yes | 14 | 15 | 16 | 0.21, df=1, p=0.64 |
| | | No | 18 | 29 | 8 | |

Table: 5 Association of level of Drug attitude with selected demographic variables. (Control group) N-25

| S. No | Background variables | Categories | Drug attitude level in control group | | | χ^2 - value, df, p-value |
|-------|----------------------------------|----------------------|--------------------------------------|---------|----------|-------------------------------|
| | | | Positive | Neutral | Negative | |
| | | | % | % | % | |
| 1 | Age | 20-40 years | 10 | 17 | 18 | 0.31, df=1, p=0.57 |
| | | 41-60 years | 18 | 23 | 14 | |
| 2. | Education | No formal education | 6 | 5 | 9 | 1.59, df=2, p=0.20 |
| | | Schooling | 10 | 25 | 13 | |
| | | Under graduate | 12 | 10 | 10 | |
| 3. | Religion | Christian | 14 | 15 | 17 | 0.73, df=2, p=0.39 |
| | | Hindu | 6 | 9 | 6 | |
| | | Muslim | 8 | 16 | 9 | |
| 4. | Marital status | Married | 2 | 22 | 12 | 0.14, df=2, p=0.70 |
| | | Un Married | 20 | 7 | 6 | |
| | | Separated / divorced | 6 | 11 | 14 | |
| 5. | Family monthly income | Below 5,000 | 16 | 12 | 24 | 0.13, df=1, p=0.71 |
| | | Above 5,000 | 12 | 28 | 8 | |
| 6. | Family Type | Joint | 10 | 7 | 6 | 0.12, df=1, p=0.71 |
| | | Nuclear | 18 | 33 | 26 | |
| 7. | Residence | Urban | 14 | 16 | 11 | 1.03, df=2, p=0.30 |
| | | Semi urban | 6 | 13 | 9 | |
| | | Rural | 8 | 11 | 12 | |
| 8. | Duration of Illness | Less than one year | 2 | 27 | 13 | 1.80, df=2, p=0.17 |
| | | 1- 2 Years | 14 | 8 | 8 | |
| | | 2-3 years | 12 | 5 | 11 | |
| 9. | Family history of mental illness | Yes | 13 | 27 | 14 | 3.88, df=1, p=0.04* |
| | | No | 15 | 13 | 18 | |