Journal of Population Therapeutics & Clinical Pharmacology

RESEARCH ARTICLE
DOI: 10.53555/9gea5x82

EVALUATION OF COMPARATIVE STUDY TO ASSESS THE EFFICACY OF INTERPERSONAL AND SOCIAL RHYTHM THERAPY IN BIPOLAR AFFECTIVE DISORDER PATIENTS

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ABSTRACT

Introduction: Bipolar disorder is one of the most burdensome mental disorders, associated with high levels of morbidity and disability in the person who frequently exhibits recurrences caused by factors such as drug noncompliance, stressful life events, and disruptions in social rhythm. Along with medicine, successful treatment of bipolar affective disorder (BPAD) should focus on social rhythm stabilisation, interpersonal relationship stabilisation, and understanding and addressing the patient's stresses. IPSRT affects a person's social rhythm and interrelationship and can be used as a supportive tool in BPAD patients.

Aim and Objective: To study the efficacy of interpersonal and social rhythm therapy in bipolar affective disorder patients.

Material and Methods: This was a comparative prospective study carried out in the Department of Psychiatry at a tertiary care centre for a period of 12 months i.e, July 2023 to July 2024 on 44 BPAD patients which were divided into two groups, experimental (IPSRT + pharmacotherapy) and control group (Pharmacotherapy alone). In the IPSRT sessions, the study was focused on the patient's disruptions in social routines, interpersonal problems, and social role transitions which had been associated with affective episodes. The efficacy of IPSRT was measured by comparison of mean scores at baseline & then at 3-month using the Hamilton Depression Rating Scale (HAM-D), Young Mania Rating Scale (YMRS), and Global Assessment of functioning (GAF).

Results: In the present study it was observed that there was a considerable improvement in the HAMD-17, YMRS, and GAF scores in both the experimental and the control group, however on comparison at baseline and then at 3 months p-value of HAMD-17(0.0020), YMRS (<0.0001) and GAF(0.0002) in experimental group was more significant as compared to that of HAMD-17 (0.0052), YMRS (0.0013) and GAF (0.005) of the control group. In those patients who received

IPSRT, their social and circadian rhythm were regularized as well as their interpersonal relationships improved.
Conclusion: IPSRT may be used as an add-on therapy in conjunction with medicine to help patients reduce psychopathology. It also addresses interpersonal and social relationship impairments in Bipolar patients.

Keywords: Rhythm, Therapy, Bipolar disorder, IPSRT, Efficacy

INTRODUCTION

Bipolar disorder is a highly severe mental condition that is associated with considerable morbidity and disability in persons. The lifetime frequency is approximately 1% [1].
Approximately 50-60% of those with bipolar disorder develop the condition before the age of 19 [2]. It is characterized by mood swings in both polarities, manic and depressive, and heterogeneous symptoms, involving affective, cognitive and physical alterations. Its management includes pharmacological agents such as mood stabilizers, second-generation antipsychotics, antidepressants as well as psychosocial interventions, including cognitive behavioral therapy (CBT), psychoeducation (PE), family-focused therapy (FFT) and interpersonal and social rhythm therapy (IPSRT) [3].
Patients having bipolar disorder exhibit dysfunction in their social as well as circadian rhythm. Social rhythmicity refers to the regularity with which a person engages in social and lifestyle activities such as going to bed, timing of meals, and social interactions.
In humans, the Circadian rhythm regulates normal metabolic and endocrine processes such as sleep/wake patterns, core body temperature, and hormone release
[4]. These rhythms can be endogenously regulated and self-sustaining, but they are also impacted and synchronised by external stimuli such as light, temperature, or social interactions, sometimes known as "zeitgebers" [5].
According to the social zeitgeber theory, mood swings occur as a result of life experiences that disrupt social zeitgebers, destabilising social and biological circadian cycles.
Treating bipolar disorder presents numerous challenges as we must not only address the acute episodes in bipolar patients but also strive to prevent symptomatic relapses and ensure full recovery between episodes in terms of both symptom remission and restoration of functioning.
In addition to medicine, bipolar disorder management should focus on principles such as social rhythm stabilisation, interpersonal relationship stabilisation, and stress reduction. Various therapies have been developed over the years for bipolar patients, including behavioural therapy, cognitive therapy, family-focused therapy, interpersonal and social rhythm therapy (IPSRT), and so on.
IPSRT is a modular, manual-based intervention, specifically designed for BPAD patients. IPSRT has been specifically developed to manage patients' stressful life events, improve the disruptions of social and circadian rhythms and increase their adherence to medications . The IPSRT is based on the theoretical approaches of the interpersonal psychotherapy (IPT) and social rhythm therapy [6].
The fundamental goal of IPSRT therapy is to avoid new episodes of disease or to increase the time between episodes.Through IPSRT, the patient learns skills aimed not only at improving the regularity of daily routines and normalising sleep-wake cycles, but also at improving the patient's social relationships, assisting the patient in coping with grief, providing the patient with conflict resolution skills, and maximising the patient's role in their social environment [7].
IPSRT attempts to reduce denial and enhance acceptance of the lifelong nature of the illness and its underestimated propensity to recur.It addressed three mechanisms of relapse: disrupted social rhythms, non-adherence to the medication regime, and interpersonal life events [8,9].
Bipolar disorder (BD) is one of the most serious mental illnesses, with a lifetime frequency of 2.4%, 0.6% for bipolar type I and 0.4% for bipolar type II. Interpersonal and Social Rhythm Therapy (IPSRT) is one of the interventions developed to adopt bipolar illness treatment strategies. This

strategy was specifically designed to help patients handle stressful life events, improve disturbances to social and circadian cycles, and boost medication adherence.
Therefore the present study was undertaken to study the attempts to understand the efficacy of IPSRT therapy on Indian bipolar patients and how helpful it is in improving stressors, interpersonal interactions, and biological rhythms that are disrupted in bipolar patients.

MATERIAL AND METHODS

This was a comparative prospective study using pre-post design with experimental and control group carried out in the Department of Psychiatry at a tertiary care centre for a period of 12 months i.e, July 2023 to July 2024 on 44 BPAD patients which were divided into two groups, experimental (IPSRT + pharmacotherapy) and control group (Pharmacotherapy alone).
The Institutional Ethical Committee, and written informed consent was obtained from patients who were willing to participate in the study. The samples were drawn based on the purposive sampling technique. Patients attending the Outpatient department of psychiatry who were diagnosed with bipolar affective disorder according to the ICD-10 Diagnostic Research Criteria were recruited.
In the current study a total of 72 patients were screened for the study out of which 24 patients did not come for follow-up. So the final sample of the study studied were 48 patients. Participants were randomly assigned to the experimental group receiving the Interpersonal and Social Rhythm Therapy IPSRT) plus pharmacotherapy or the control group, receiving the pharmacotherapy alone.

Inclusion criteria

1. Individuals with ages ranging from 18 to 60.
2. Individuals of any gender.
3. The patients who agreed to take part in the trial with informed consent.
4. Patients who cooperate.

Exclusion criteria

1. Individuals with a known history of organic brain diseases or other psychiatric co-morbidities.
2. Abuse of drugs or alcohol; Receiving any other psychotherapy intervention at the time of recruiting.

ASSESSMENT TOOLS PROCEDURE:

1. The severity of depressive symptoms was assessed using the Hamilton Depression Rating Scale (HAM-D) [10]. This 17-item scale uses a semi-structured interview to measure depressed symptoms. A minimum score of 0 and a maximum score of 52 are possible by rating eight of the seventeen HDRS-17 items on a 5-point scale and the remaining nine items on a 3-point scale.
2. Young Mania Rating Scale (YMRS) [11], developed by Vincent E Ziegler and published & popularized by Robert Young measures the severity of manic symptoms. This 11-item scale assesses various aspects, including mood, motor activity/ energy levels, interest in sex, sleep, irritability, rate and frequency of speech, flight of ideas, grandiosity, aggressive behaviour, appearance, and insight into the current presentation.
3. Physicians and mental health professionals utilise the Global Assessment of Functioning (GAF)[12] numerical scale to score a person's social, occupational, and psychological functioning in a subjective manner. This rating ranges from 1 (severely impaired) to 100 (very high functioning).

PROCEDURE

In the current study all the recruited patient’s socio-demographic and clinical characteristics were recorded through a semi-structured questionnaire. Patients were then assessed through the administration of the Hamilton Depression Rating Scale, Young Mania Rating Scale, and Global Assessment of Functioning before starting the therapy.

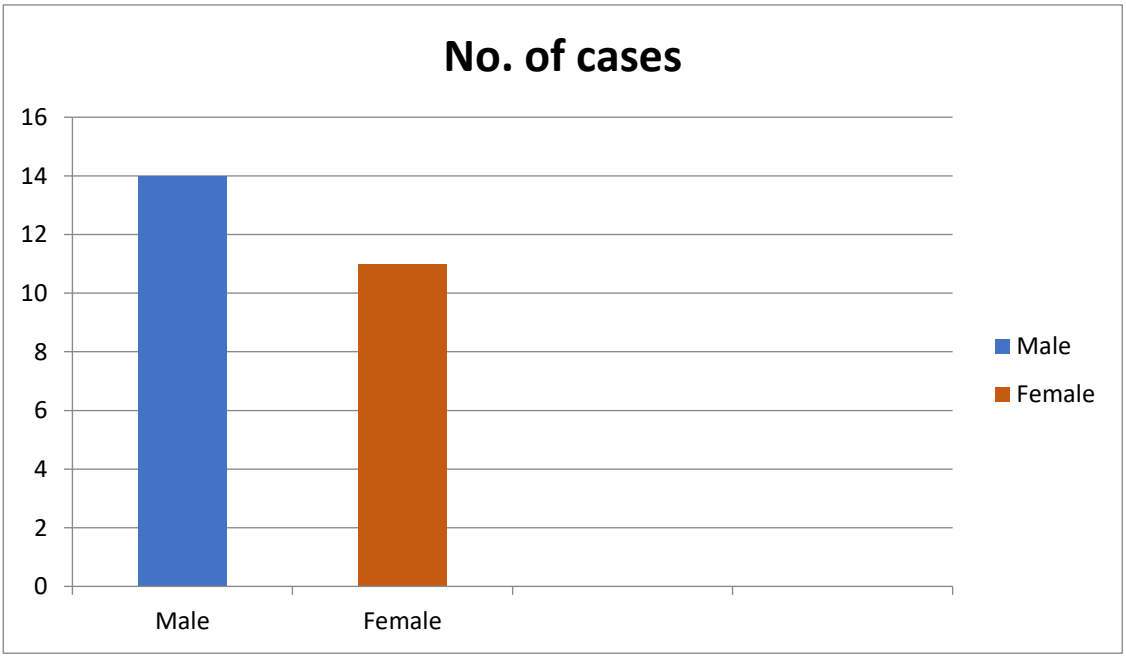
In the experimental group, medications as well as IPSRT therapy were given. In the control group only medications were given, any type of psychosocial therapy was not given.
IPSRT was done in 12 weekly sessions, each lasting about 90 min. IPSRT was given to the experimental group in 4 phases.
The **first phase** (initial phase):
It was divided into two sessions when a thorough medical history was obtained. The patient's interpersonal relationships, both past and present, were evaluated for their character and quality. Additionally, the relationship between the patient's mood swings and stressful life events was determined. The nature of bipolar mood disorder was also explained to the patient and concerned family members. The social rhythm metric scale was given to patients to complete in order to track their daily activities (such as when they got out of bed, made their first contact with someone, started working at what time, had meals, and went to bed).
The **second phase** comprised of 4 sessions:
In which the reorganization of social rhythms andthe interpersonal problem area resolution specified in the initial phase was done.Patients were assisted in scheduling daily routines more consistently, potential causes of rhythm disruption that may emerge in the future, and how to maintain the highest level of regularity were discussed. The subjects were taught strategies to maintain self-control in challenging situations.
The **third phase** i.e., the maintenance phase which also comprised of 4 sessions:
In this phase, patients were taught various relaxation techniques (such as deep breathing exercises, mental relaxation exercises, progressive muscle relaxation exercises, and meditation).Focus was given to reinforce new social rhythms and building confidence in the learned techniques to prevent future affective episodes.
The **final phase** consisted of two sessions:
During which previous knowledge was reviewed, patient experiences were discussed,relaxation technique sessions were explored, and advice regarding the future was given.
Patients were assessed at baseline and after 3 months of giving the IPSRT using the above-mentioned tools.
Individual and sociodemographic traits were shown as percentages and numbers. The sociodemographic details of the participants and the effectiveness of IPSRT in bipolar patients were examined using descriptive statistics. To rule out any group differences at the baseline, or before to the initiation of therapy, the t-test was used. Following the intervention, the groups had additional testing using a paired t-test to determine the relationship between IPSRT therapy and GAF, HAMD-17, and YMRS. For statistical analysis, IBM SPSS 29.0.1.0 for Windows was used.

RESULTS

In the present study the socio-demographic and clinical characteristics of recruited patients are reported in Table 1.The two samples were almost having equal distribution with regard to socio-demographic variables and clinical variables. In the experimental group, 10 patients having manic episode were treated with lithium and antipsychotic and remaining 15 were treated mood stabiliser other than lithium along with antipsychotic, 10 patients having depressive episode were treated with antidepressant and mood stabiliser other than lithium. While in the control group, 11 patients with maniac episode were treated with lithium and antipsychotic 9 and 11 respectively and 11 and 16 patients were given antipsychotic and mood stabiliser other than lithium, 14 patients of depressive episode were treated with antidepressant and mood stabiliser other than lithium were 16.

Table-1: Frequency distribution of socio-demographic and clinical characteristics

DEMOGRAPHIC CHARACTERISTICS	**Experimental Group (N)**	**Control Group (N)**
Age at Onset (M±SD)	24.12±3.62 %	24.7±1.14 %
Gender Male Female	 14 56% 11 44%	 15 60% 10 40%
CLINICAL CHARACTERISTICS		
No. of Prior Maniac Episodes (M± SD)	3.78±1.54	3.74±0.91
No. of Prior Depressive Episodes (M±SD)	1.94±0.90	1.45±0.66
PRESENT EPISODE Manic Depressive	 15 60% 10 40%	 11 44% 14 56%
MEDICATION USE Lithium Mood stabiliser other than lithium Antipsychotic Antidepressant	 10 40% 15 60% 15 60% 10 40%	 9 36% 16 64% 11 44% 14 56%



Graph No. 1: Graphical Representation of Genderwise distribution of the cases

The two groups were compared on different scales i.e., HAMD-17, YMRS, GAF at baseline in Table 2. HAMD-17 score in the experimental group came out to be 21.03±9.3, in the control group

22.68±13.54, having p-value of 0.65. YMRS score in the experimental group came 20±13.12, in the control group 21.56±12.16 having p-value of 0.87. GAF score in the experimental group 61.03±65, in the control group 60.5±8.36, having p-value of 0.51. After comparison of 2 groups there were statistically no differences in the 2 groups at the baseline.

Table-2: Comparison of mean scores of 2 Groups at baseline

Scale	**Scores Mean**		**P value**
	Experimental Group	**Control Group**	
HAMD-17	21.03±9.3	22.68±13.54	0.65
YMRS	20±13.12	21.56±12.16	0.87
GAF	61.03±65	60.5±8.36	0.51

The 2 groups were then compared after 3 months of giving IPSRT in the experimental group and control group in Table 3. HAMD-17 score in the experimental group after 3 months came out to be 14.56±6.32, whereas in the control group 12.65±7.11. YMRS score in the experimental group after 3 months came out to be 14.56±9.11, in the control group 12.11±8.14. GAF score in the experimental group after 3 months is 69.13±1.4, in the control group it is 65.12±6.1.There is statistical differences in both the groups after the intervention. However, patients from the experimental group as compared to control reported more significantimprovement indepressivesymptoms (HAMD-17: p=0.0020),maniac symptoms(YMRS: p<0.0001)and global functioning(GAF: p=0.0002).

Table 3: Comparison of mean scores at baseline and at 3 Months of 2 groups

Scale	**Score Mean**			**P value**
		At Baseline	**At 3 Months**	
HAMD-17	**Experimental group**	21.22±9.03	14.56±6.32	0.0020**
	Control group	23.12±6.12	12.65±7.11	0.0052*
YMRS	**Experimental group**	20.78±11.23	14.56±9.11	<0.0001**
	Control group	21.11±9.15	12.11±8.14	0.0013*
GAF	**Experimental group**	61.03±65	69.13±1.4	0.0002**
	Control group	60.5±8.36	65.12±6.1	0.005*

DISCUSSION

It poses a significant burden on patients, their relatives and the society at large. It is characterized by mood swings in both polarities, manic and depressive, and heterogeneous symptoms, involving affective, cognitive and physical alterations. Its management includes pharmacological agents such as mood stabilizers, second-generation antipsychotics, antidepressants as well as psychosocial interventions, including cognitive behavioral therapy (CBT) [3].

Patients with bipolar disorder had effects in their lives as well as those of their families. The disease impairs the patient's biological, socio-occupational, and functioning during the episodic phase, but in certain cases, the patient's functioning does not return to normal during the remission phase. Along with severe morbidity, bipolar disorder patients also have a high fatality rate.

Although IPSRT was originally developed for individuals with bipolar I disorder, it appears in the literature that IPSRT can be used in the treatment of both bipolar I and bipolar II disorders.

In our study a comparative analysis was done of two groups, an experimental group, and a control group, focusing on the baseline and 3-month scores of key scales: HAMD-17, YMRS, and GAF. Significant improvements are evident in the scores of both groups following 3 months of treatment or intervention. HAMD-17 and YMRS scores decreased, indicating a reduction in depressive and manic symptoms, while GAF scores increased, reflecting improved overall functioning. According to the study conducted by Elizabeth et al [14], IPSRT appears to be a promising adjunctive treatment for adolescents with bipolar disorder. This finding is almost consistent with the finding of our study, which shows more improvement in the patients on IPSRT therapy.

In our study, the difference in the scores of various scales at baseline and after 3 months in the experimental group came out to be highly significant as compared to the significant difference ($p< 0.05$) in the control group. These findings are corroborated by the findings of Steardo et al [15] who stated that at the end of the intervention, compared to controls, patients from the experimental group reported a significant improvement.Another study done by Gupta et al [16] to assess the efficacy of IPSRT on Quality of Life and Global Functioning among BPAD patients. There was significant improvement in the GAF score of the control group only, as only manic patients were included in their study contrary to our study, where we have included both the manic as well as depressive patients.Moreover, they conducted their study for a duration of two months, whereas our study was conducted for 3 months.

In the experimental group in which we have given IPSRT the social rhythm got more regularised as compared to the control group, indicated by the Social Rhythm Metric-II 5-item version. This difference might be more significant in only the experimental group if we have also conducted a follow-up study for a long period i.e., two years as done by Frank et al.
[17].

IPSRT has been confirmed to be effective in improving the clinical symptomology of BD patients and in improving the affective morbidity index [18-21].

It is thought that the practice of social rhythm-based interventions by psychiatric nurses in individuals with bipolar disorder will increase the effectiveness of pharmacotherapy and the quality of nursing care [22].

IPSRT has been empirically supported as adjunctive psychotherapy for adult patients having bipolar disorder, which helps in delaying relapse, speeding recovery from a bipolar depressive episode, and enhancing occupational and psychosocial functioning in adults with bipolar disorder [23].

IPSRT is used to determine the relationship between life events and mood changes, to establish regular daily routines, to detect factors that disrupt social and biological rhythms in daily life and interpersonal relationships, to address the individual's mourning for the "healthy self" he lost due to the disease, and to detect affective symptoms.

IPSRT helps to understand the mechanism of disease relapse, maintain a stable interpersonal rhythm, reduce changes in sleep-wake patterns, identify triggers for depression and mania, learn effective methods of coping with stress, and address interpersonal problems [24].

Further studies with longer follow-up are needed in order to assess the stability of the results

CONCLUSION

Our findings show that IPSRT tackles a number of stressors that contribute to mood swings, improves the disordered sleep-wake cycle, promotes medication adherence, resolves interpersonal disputes, and teaches people coping methods and relaxation techniques. Moreover, the IPSRT can be easily implemented in the routine care of mental health centers considering that it can be administered by all categories of mental health professionals (including psychiatrists, psychologists, nurses, social workers and psychiatric rehabilitation technicians) after a brief training.

As a result, IPSRT and medication help BPAD patients reduce depressed symptoms while also increasing their biological and professional functioning, as well as their overall quality of life.

DECLARATIONS:

Conflicts of interest: There is no any conflict of interest associated with this study

Consent to participate: There is consent to participate.

Consent for publication: There is consent for the publication of this paper.

Authors' contributions: Author equally contributed the work.

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