



## Systematic Review

# Effectiveness of interpersonal social rhythm therapy applied to individuals with bipolar disorder: A systematic review

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### Abstract

**Objectives:** This study was conducted to review the randomized controlled studies screened to evaluate the effectiveness of Interpersonal Relationship Social Rhythm Therapy in individuals with bipolar disorder and to systematically examine the data obtained from the studies.

**Methods:** A total of 4136 studies published in 2005–2020 on the subject, which were searched in PubMed, Science Direct, EBSCO Host, Google Academic, and Psychiatry Index databases with the combination of “interpersonal social rhythm therapy (IPSRT) and bipolar disorder,” “IPSRT and mood disorder,” “IPSRT and affective disorder,” “IPSRT and bipolar disorder,” “IPSRT and mood disorder,” “IPSRT and affective disorder” keywords between July–December 2022, were examined. A total of seven publications that met the inclusion criteria were included in the study and evaluated in terms of results. In the research, systematic review method was used.

**Results:** When the studies included in the research were examined, it was seen that IPSRT applied to individuals with bipolar disorder was effective in preventing relapses and increasing functionality. Research findings also emphasize that programmed interventions other than IPSRT are effective in increasing the functionality of individuals with bipolar disorder and reducing relapses.

**Conclusion:** As a result of this study, 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, and it is considered that it will be important to conduct more research on this subject.

**Keywords:** Bipolar disorder; interpersonal social rhythm therapy; systematic review.

Bipolar disorder is a two-pronged disorder that is characterized by mood swings that include extreme joy on the one side and deep depression on the other side. Bipolar disorder, which is a chronic, relapsing, and remitting disease, carries a high risk for suicidal behavior.<sup>[1,2]</sup> In the treatment of bipolar disorder, pharmacological agents such as mood stabilizers, second-generation antipsychotics, and antidepressants are used, as well as cognitive behavioral therapy, psychoeducation, family-focused therapy, and Interpersonal and Social Rhythm Therapy (IPSRT) interventions.<sup>[3,4]</sup>

Different circadian rhythms (changes in mood, munchies, sleep, and energy level) are observed during the mania, de-

pression, and recovery periods of bipolar disorder. For this reason, circadian rhythm abnormalities are gaining importance among the possible biomarkers of bipolar disorder.<sup>[5-7]</sup> There is a relationship between circadian rhythm and mood based on the “social zeitgeber theory.”<sup>[5,8]</sup> Zeitgeber means sunrise and sunset.<sup>[9]</sup> In this context, while situations such as interpersonal relationships, life events, and social needs affect the “social zeitgeber” such as falling asleep and waking up time, it can also disrupt biological rhythms.<sup>[10,11]</sup> While circadian rhythm change causes cognitive and somatic complaints in healthy individuals, it may pre-dispose to bipolar disorder or it may trigger a new attack in diagnosed individuals.<sup>[7,9,10]</sup>

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Considering that the loss of “social zeitgeber” or the presence of life events that disrupt daily routines may cause new mood attacks in individuals pre-disposed to the disease,<sup>[3,5]</sup> it is thought that bipolar disorder should be treated effectively. To prevent the recurrence of bipolar attacks, the principles of social rhythm stability should be focused on.<sup>[7-9]</sup> Other empirically validated treatments for mood disorders also support this concept.<sup>[10]</sup> Based on this essence, it is emphasized in the literature that IPSRT is effective in regulating circadian rhythms and regulating relationships with other people.<sup>[9,12-16]</sup>

IPSRT was first developed by Ellen Frank for individuals with bipolar disorder.<sup>[10,13,15]</sup> IPSRT integrates behavioral, interpersonal, and psychoeducational approaches to prevent the onset of new bipolar episodes.<sup>[16-18]</sup> IPSRT in individuals with bipolar disorder focuses on issues such as determining the impact of life events on mood changes, establishing regular daily routines, detecting factors that disrupt social and biological rhythms in interpersonal relationships and daily life, and detecting and addressing the mourning and affective symptoms of the individual’s “healthy self” due to illness.<sup>[10,17,18]</sup> As a result, IPSRT can be considered as an education, social rhythm regulation, and interpersonal problem-solving module throughout a treatment module. Which modules the therapist uses and when depends on the stage of the disease, the condition that disrupts the most basic social rhythm balance.<sup>[9]</sup>

IPSRT consists of four stages: Initial phase, intermediate phase, maintenance, and termination phase. In the initial stage of IPSRT, a detailed history of the disease is taken, information about interpersonal relationships is collected, an interpersonal problem area is determined, the patient is educated about the disease, and IPSRT is started. The intermediate phase is a period to develop strategies to manage emotional symptoms, stabilize daily rhythms, and resolve the interpersonal problem space, lasting about a few months and taking place on a weekly basis.<sup>[9,19]</sup> Since the aim of IPSRT is designed to prevent future mood swings and improve euthymic periods, the maintenance phase is a crucial component of this treatment.<sup>[13,17]</sup> In the maintenance phase of IPSRT, the patient is aware of his own social and biological rhythm and applies what he has learned in the previous phases. The aim here is to stabilize the social rhythm and maintain routines in the face of holiday work period changes and unexpected life events. During the maintenance phase of IPSRT, the frequency of meetings is reduced to every 2 weeks and then to once a month.<sup>[9,10]</sup> In the finalization phase, treatment successes and the patient’s general condition are reviewed to help determine strategies for future disease management, including the patient’s interpersonal difficulties and symptoms.

While IPSRTs generally promote behavioral change, the primary target is the patient’s behavior pattern that occurs over multiple days. In IPSRTs, patients develop a daily routine and track changes in their routine with a diary.<sup>[20,21]</sup> It has been reported in the literature that the attack-free period of patients with bipolar disorder who received IPSRT was prolonged.

#### What is presently known on this subject?

- Medication non-compliance, stressful life events, and disruptions in social rhythm seen in individuals with bipolar disorder cause relapses. It is emphasized and known that regulating social rhythms is important in ensuring stability in the treatment of individuals with bipolar disorder and reducing the frequency of relapses.

#### What does this article add to the existing knowledge?

- This systematic review shows that three of the seven randomized studies were conducted by psychiatric nurses. The application of Interpersonal and Social Rhythm Therapy or interventions targeting social rhythm by psychiatric nurses, who are in frequent contact with the patient, shows that it is effective in maintaining the social rhythm of individuals. In addition, this therapy method increases the patient’s functionality by reducing the frequency of relapse.

#### What are the implications for practice?

- It may be useful for psychiatric nurses working with individuals with bipolar disorder to be aware of the relationship between social rhythm and relapse frequency and to practically implement interventions aimed at stabilizing social rhythm.

<sup>[9,10,13,15,17]</sup> In the light of all this information, our study was conducted to evaluate the effectiveness of randomized controlled studies of IPSRT applied to individuals with bipolar disorder in preventing the frequency of attacks.

## Materials and Method

### Research Question

The research question was determined within the framework of PICOS (P: Population, I: Interventions, C: Comparisons, O: Outcomes, S: Study designs).

### Population

Individuals diagnosed with bipolar disorder.

### Intervention

IPSRT.

### Comparison

IPSRT and attack frequency.

### Outcome

IPSRT applied to individuals diagnosed with bipolar disorder is effective in preventing the frequency of attacks.

### Study Design

Randomized controlled trial (RCT)

### Research Question

Is IPSRT applied to individuals diagnosed with bipolar disorder effective in preventing the frequency of attacks?

This systematic review was conducted according to the “Centre for Reviews and Dissemination” guidelines to determine the effectiveness of IPSRT in individuals with bipolar disorder. Before literature scanning, databases, keywords, and synonyms were determined. A total of 4136 studies were published in 2005-2020 on the subject, which was searched in PubMed, Science Direct, EBSCO Host, Google Academic, and Psychiatry Index

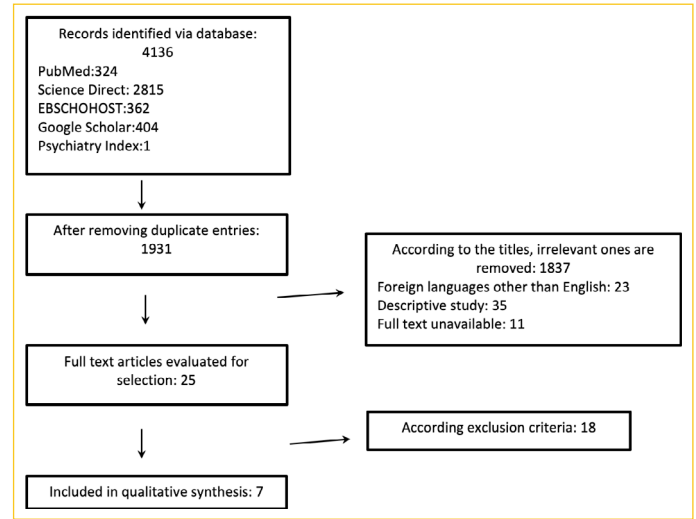
databases with the combination of “interpersonal social rhythm therapy (IPSRT) and bipolar disorder,” “IPSRT and mood disorder,” “IPSRT and affective disorder,” “IPSRT and bipolar disorder,” “IPSRT and mood disorder,” “IPSRT and affective disorder” keywords between July–December 2022, were examined (Table 1). A total of seven publications that met the inclusion criteria were included in the study and evaluated in terms of results. In the research, a systematic review method was used.

**Inclusion criteria of the study:** There are randomized controlled studies in which IPSRT is applied to individuals diagnosed with bipolar disorder without a specific date limitation, the full text can be accessed online, and the research design is randomized controlled studies. **Exclusion criteria of the study:** IPSRT application to individuals other than bipolar disorder, IPSRT-based mobile applications, non-randomized controlled studies, review articles, book chapters, and studies whose language is not English and whose full text cannot be accessed online. As a result of the screening, a total of 4136 studies (PubMed: 324, ScienceDirect: 2815, EBSCO Host: 362, Google Scholar: 404, and Psychiatry Index: 1) were reached. When 2205 repetitive studies were removed, 1931 studies remained. When 1837 studies that were not relevant to the title were removed, 94 studies remained. Of the remaining 94 studies, 25 studies remained after excluding 23 studies in a language other than English, 35 descriptive studies, and 11 studies for which the full text was not available. Of the remaining 25 studies, six were non-randomized controlled trials, two of them were about IPSRT-based mobile application, eight were reviews, one was a research protocol, one was a feasibility assessment, and one included the initial data of a study that met the screening criteria. When these studies were excluded, seven studies remained.

### Data Analysis

Studies included in the systematic review were examined by two independent researchers. A data summary form was created by the researchers to establish consensus and the studies were evaluated according to this form. In this form, the titles of the authors of the studies, publication year, country, purpose, research method, sample group, intervention, measurement tools, and results are included.

The Preferred Reporting Items Checklist for Systematic Reviews and Meta-Analyses was used to assess study characteristics. The Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols flow diagram of the study is given in Figure 1.



**Figure 1.** Systematic review study selection process according to PRISMA.

### Methodological Evaluation

To assess the quality of randomized controlled trials, the Joanna Briggs Institute (JBI) has developed critical appraisal tools (Meta-Analysis of Statistics Assessment and Review Instrument (MAStARI)).<sup>[22]</sup> The articles reviewed according to the 10-item checklist for experimental and quasi-experimental research of the JBI MAStARI Critical Evaluation Tools are given in Table 2. Accordingly, one of the randomized controlled studies was evaluated as good quality,<sup>[23]</sup> and the remaining six studies were medium quality.<sup>[4,14,19,24-26]</sup>

### Results

When we look at the general characteristics of the seven studies included in this systematic review, it is noteworthy that all of them were randomized controlled studies in terms of research method, they were mainly studied with individuals with bipolar disorder, the intervention was IPSRT, and they were carried out with the aim of improving functionality (social-occupational), and relapse rates and social rhythms have suffered. The seven studies included in the systematic review were conducted between 2005 and 2020. Three of the studies were conducted in New Zealand,<sup>[14,24,25]</sup> three in the USA,<sup>[19,23,26]</sup> and one in Italy,<sup>[4]</sup> and IPSRT was applied face to face and individually as an intervention. IPSRT programs consist of content such as psychoeducation, stabilizing social rhythm, improving

**Table 1. Keywords used in scanning**

(interpersonal and social rhythm therapy) and (bipolar disorder)	(kişilerarası ilişkiler sosyal ritim terapi) ve (bipolar bozukluk)
(interpersonal and social rhythm therapy) and (mood disorder)	(kişilerarası ilişkiler sosyal ritim terapi) ve (duygudurum bozukluğu)
(interpersonal and social rhythm therapy) AND (affective disorder)	(kişilerarası ilişkiler sosyal ritim terapi) ve (affektif bozukluk)
(IPSRT) and (bipolar disorder)	(KİPT-SRT) ve (bipolar bozukluk)
(IPSRT) and (mood disorder)	(KİPT-SRT) ve (duygudurum bozukluğu)
(IPSRT) and (affective disorder)	(KİPT-SRT) ve (affektif bozukluk)

Table 2. Bias risk summary by Joanna Briggs institute MASTARI critical assessment tools

No	Articles						
	Frank et al. 2005	Frank et al. 2008	Swartz et al. 2012	Inder et al. 2015	Crowe et al. 2020	Porter et al. 2020	Steardo et al. 2020
1	Y	Y	Y	Y	Y	Y	Y
2	Y	Y	U	Y	Y	Y	U
3	Y	Y	U	Y	N	Y	U
4	Y	N	N	Y	Y	Y	U
5	N	U	U	U	U	U	U
6	Y	U	Y	U	Y	U	Y
7	Y	Y	Y	Y	Y	Y	Y
8	Y	Y	Y	Y	Y	Y	Y
9	Y	Y	Y	Y	Y	Y	Y
10	Y	Y	Y	Y	Y	Y	Y
Total	9	7	6	8	8	8	6

Y: Yes, N: No, U: Unclear.

interpersonal relationships, and preventing attacks. When the studies included in the research were examined, the following headings were determined and presented in detail.

### Sample Characteristics

Frank et al.<sup>[23]</sup> (2005) was conducted to compare the IPSRT and Intensive Clinical Management (ICM) approach in the treatment of bipolar I disorder. A total of 175 patients were included in this study and were assigned to four groups by randomization. These four groups are: acute - maintenance IPSRT, acute - maintenance ICM, acute IPSRT - maintenance ICM, and acute ICM - maintenance IPSRT. Inclusion criteria of the study: Being diagnosed with bipolar I disorder or schizoaffective disorder manic type with three or more mood attacks, being between the ages of 18 and 60, getting on the 17-item Hamilton Depression Rating Scale (HDRS-17)  $\geq 15$  points score, if depressed getting on the Bech-Rafaelsen Mania Scale (BRMS)  $\geq 15$  puan score. Exclusion criteria of the study: They included being in a current rapid cycle ( $\geq 4$  episodes per year), having chronic alcohol/substance abuse, pregnancy, or uncontrolled medical illness that would preclude protocol pharmacotherapy, being diagnosed with borderline or antisocial personality disorder, and being diagnosed with active bulimia or anorexia. The average age of 175 patients was 35.23 and 56.75% were women.

Frank et al.<sup>[19]</sup> (2008) were conducted to evaluate the effect of IPSRT and ICM on occupational functioning in patients diagnosed with bipolar I disorder. Inclusion criteria of the study include being in a bipolar episode (HDRS-17  $\geq 15$  or BRMS  $\geq 15$  points), being between the ages of 18–60, being diagnosed with bipolar I disorder and schizoaffective disorder manic type, and experiencing three or more episodes in a lifetime. Exclusion criteria included being in a current rapid cycle ( $\geq 4$  episodes per year), being diagnosed with borderline/antisocial personality disorder and active eating disorder, chronic alcohol/substance abuse, a diagnosis of an uncontrolled medical disease that would prevent receiving protocol pharmacotherapy determined in the study, and pregnancy. A total of 125 patients were included in this study and were assigned to four groups by randomization. These four groups are acute - maintenance IPSRT, acute - maintenance ICM, acute IPT-SRT - maintenance ICM, and acute ICM - maintenance IPSRT. The average age of 125 patients was 35.4 years and 59.2% were women. 93% of them are diagnosed with bipolar I disorder and 7% are patients with schizoaffective disorder manic type.

Swartz et al.<sup>[26]</sup> (2012), in their study to compare quetiapine and IPSRT in the treatment of bipolar II depression, 14 out of a total of 25 participants were randomized to IPSRT and 11 to quetiapine treatment. Inclusion criteria of the study: These are listed as being between the ages of 18–65, being in the bipolar II disorder depression phase, getting HDRS-17  $\geq 15$  points, getting Young Mania Rating Scale (YMRS)  $\leq 10$  points, and being willing to participate in the study. Exclusion criteria – using antipsychotic medication, alcohol/substance abuse in the past 6 months, being diagnosed with borderline/antisocial personality disorder, and having a medical condition that prevents the accurate assessment of mood symptoms. The average age of patients assigned to IPSRT is 40.1 years and 50% are women, and the average age of patients assigned to quetiapine treatment is 32.1 years and 73% are women.

Inder et al.<sup>[25]</sup> (2015) were conducted to compare the effects of Specialist Supportive Care (SSC) and IPSRT on social functionality, depression, and mania in young people with bipolar disorder (bipolar I and bipolar II and not otherwise specified). Of a total of 100 patients, 49 were randomized to IPSRT and 51 to SSC. Inclusion criteria of the study include being between the ages of 15–36, to be able to sign informed consent, and to be willing to participate in the study. Exclusion criteria are alcohol/substance abuse and low attendance of patients in the SSC or IPSRT groups. The average age of patients assigned to IPSRT is 26.6 years and 75.5% are women. 75.5% of the patients in this group are diagnosed with bipolar I disorder, 14.3% with bipolar II disorder, and 10.2% with bipolar disorder not otherwise specified. The average age of patients assigned to SSC is 26.5 years and 76.5% are women. 80.4% of the patients in this group are diagnosed with bipolar I disorder and 19.6% with bipolar II disorder.

Crowe et al.<sup>[14]</sup> (2020) compared relapse rates among patients with bipolar disorder (bipolar I disorder, bipolar II disorder) who received IPSRT or general practice medical care (continuation of previous treatment). Of the 88 patients included in this 18-month study, 43 were randomized to the IPSRT group and 45 to general practice medical care. Inclusion criteria of the study: Being between 18 and 64 years of age; not meeting criteria for depression, mania, or mixed episode; being able to sign informed consent for the research protocol; and being willing to participate in the study. Exclusion criteria are individuals with schizophrenia, schizoaffective disorder, and alcohol/substance addiction. The average age of patients assigned to IPSRT is 39.9 years. 65% of the patients in this group are diagnosed with bipolar I disorder and 35% with bipolar II disorder. The average age of patients assigned to general practice medical care is 40.2 years. 67% of the patients in this group are diagnosed with bipolar I disorder and 33% with bipolar II disorder.

Porter et al.<sup>[24]</sup> (2020) to determine the effect of medication management - IPSRT or medication management-SSC on cognitive function in young people with bipolar disorder (bipolar I, bipolar II, and not otherwise specified). Of the 100 patients

included in this 18-month study, 49 were randomly assigned to IPSRT and 51 to SSC. Inclusion criteria of the study: Being between the ages of 15–36 and being able to speak sufficient English, and the exclusion criteria are individuals with schizophrenia, schizoaffective disorder, and alcohol/substance addiction. The average age of patients assigned to IPSRT is 27.5 years and 77.14% are women. 77% of the patients in this group are diagnosed with bipolar I disorder, 11% with bipolar II disorder, and 11% with bipolar disorder not otherwise specified. The average age of patients assigned to SSC is 26.9 years and 79% are women. 84% of the patients in this group are diagnosed with bipolar I disorder and 16% with bipolar II disorder.

Sterado et al.<sup>[4]</sup> (2020) were conducted to evaluate the effectiveness of IPSRT on affective and anxiety psychopathology, social functionality, response to pharmacological treatment, and Affective Morbidity Index (AMI) in bipolar patients. Of a total of 44 patients, 22 were randomized to IPSRT and the remaining 22 to normal treatment. Criteria for inclusion in the study: Being between the ages of 18 and 70, have a diagnosis of type I or type II bipolar disorder confirmed by Structured Clinical Interview for DSM-5 (SCID-5-CV), be on stable treatment with mood stabilizers (at least 1 year and lithium/valproic acid therapeutic blood levels), being able to sign the informed consent form, and being willing to participate in the study. Exclusion criteria are not being able to give written consent for participation in the study, being diagnosed with any neurological disease, having alcohol/substance abuse, or receiving any other psychotherapeutic intervention. The average age of patients assigned to IPSRT is 49.1 years and 54% are women. 86% of the patients in this group are diagnosed with bipolar I disorder and 14% with bipolar II disorder. The average age of patients assigned to general medical care is 46.7 years and 59% are women. 55% of the patients in this group are diagnosed with bipolar I disorder and 46% with bipolar II disorder (Table 3).

### Characteristics of Interventions

Frank et al.<sup>[23]</sup> (2005) and Frank et al.<sup>[19]</sup> (2008) organized IPSRT and ICM interventions according to the same protocol. Accordingly, IPSRT consists of four stages. In the first stage, the therapist takes the patient's anamnesis, creates an interpersonal inventory, provides education about bipolar disorder, and determines the interpersonal problem area to work on. In the middle stage, the therapist works on interpersonal problem areas, helping to implement social rhythm stabilization and emotional symptom management strategies. In the prevention phase, the goals are to reinforce treatment gains and help the patient identify potential threats to continued stability. The finalization phase includes reviewing the patient's treatment successes as well as future vulnerable areas. IPSRT sessions lasted 45–55 min.<sup>[19,23]</sup> ICM intervention consists of education about bipolar disorder and the medications used in its treatment, education about basic sleep hygiene, careful review of disease symptoms and drug side

Table 3. Characteristics of the studies included in the review

Author	Country	Objective	Sample Group Characteristics	Inclusion Criteria	Study Design and Intervention Group Characteristics	Control Group Characteristics
Frank et al. (2005)	USA	To compare the IPSRT and ICM approaches in the treatment of Bipolar I Disorder	Acute and maintenance IPSRT (n=39) Acute and maintenance ICM (n=43) Acute IPSRT and maintenance ICM (n=48) Acute ICM and maintenance IPSRT (n=45)	<ul style="list-style-type: none"> <li>• Having been diagnosed with bipolar I disorder or schizoaffective disorder manic type with three or more previous mood attacks</li> <li>• Being between the ages of 18 and 60</li> <li>• HDRS <math>\geq 15</math> or BMRS <math>\geq 15</math></li> <li>• Being acutely ill (HDRS <math>\geq 15</math> or BMRS <math>\geq 15</math>)</li> <li>• Being between the ages of 18 and 60</li> <li>• Having a lifetime diagnosis of bipolar I disorder or schizoaffective disorder manic type and having three or more episodes in your lifetime</li> <li>• Being between the ages of 18-65</li> <li>• Bipolar disorder II being in a depressive episode</li> <li>• HDRS-17 <math>\geq 15</math> YMRS <math>\leq 10</math></li> <li>• Accept drug or psychotherapy randomization</li> </ul>	<p>RCT</p> <p>Acute participants were seen weekly until stabilization was achieved (average of HDRS and BMRS scores <math>\leq 7</math> for 4 consecutive weeks)</p> <p>RCT</p> <p>IPSRT sessions lasted 45-55 min. Treatment algorithms for manic, depressive, and mixed episodes have been determined for pharmacotherapy treatments.</p>	<p>Interviews in the prevention phase occurred biweekly for 12 weeks and then monthly until the end of the 2-year maintenance phase. In the ICM/IPSRT group, weekly meetings were held during the first 12 weeks of the prevention phase to facilitate the initiation of IPSRT.</p> <p>ICM sessions generally lasted 20-25 min. Treatment algorithms for manic, depressive, and mixed episodes have been determined for pharmacotherapy treatments.</p>
Frank et al. (2008)	USA	To compare the effect of IPSRT and ICM on occupational functioning	Acute and maintenance IPSRT Acute and maintenance ICM Acute IPSRT and maintenance ICM (n=61)	<ul style="list-style-type: none"> <li>• Having a lifetime diagnosis of bipolar I disorder or schizoaffective disorder manic type and having three or more episodes in your lifetime</li> <li>• Being between the ages of 18-65</li> <li>• Bipolar disorder II being in a depressive episode</li> <li>• HDRS-17 <math>\geq 15</math> YMRS <math>\leq 10</math></li> <li>• Accept drug or psychotherapy randomization</li> </ul>	<p>RCT</p> <p>IPSRT sessions lasted 45 min and were administered as individual psychotherapy once a week for 12 weeks.</p> <p>Psychopharmacological treatment was not applied to 11 people who underwent IPSRT, and three people were started on lorazepam because they could not sleep.</p>	<p>He was examined by a psychiatrist once a week for 12 weeks, and quetiapine was started at 50 mg and increased to 300 mg when deemed necessary</p>
Swartz et al. (2012)	USA	To compare IPSRT with quetiapine treatment	IPSRT (n=14) Quetiapine treatment (n=11)	<ul style="list-style-type: none"> <li>• Patients diagnosed with bipolar I, bipolar II and bipolar disorder not otherwise specified</li> <li>• Being between the ages of 15 - 36</li> <li>• Ability to sign informed consent</li> </ul>	<p>RCT</p> <p>IPSRT was administered as individual sessions once a week for 3 months, biweekly for up to 6 months, and then biweekly to monthly for 6-18 months, for a total of 18 months.</p>	<p>In SSC, seen every 2 weeks for 2 months, once a month for 4 months, and then every 2 months or sooner depending on the patient's mood</p>
Inder et al. (2015)	New Zealand	To compare the effects of IPT-SRT and SSC on depressive outcomes, social functioning, and mania outcomes.	IPSRT (n=49) SSC (n=51)	<ul style="list-style-type: none"> <li>• Patients diagnosed with bipolar I, bipolar II disorder</li> <li>• Being between the ages of 18 - 64</li> <li>• Not meeting criteria for depression, mania, or mixed episode at the start of the study</li> <li>• Ability to sign informed consent</li> </ul>	<p>RCT</p> <p>IPSRT sessions were carried out as individual therapies, with a total of 10-12 sessions, weekly, then biweekly and monthly.</p>	<p>Individuals assigned to routine treatment continued their routine treatment by the general practitioner, and at the same time, Bipolar Support: Canterbury provided information to these individuals about their training and services.</p>
Crowe et al. (2020)	New Zealand	To compare the recurrence rates of IPT-SRT and routine treatments	IPSRT (n=43) Continuing their routine treatment (n=45)	<ul style="list-style-type: none"> <li>• Patients diagnosed with bipolar I, bipolar II disorder</li> <li>• Being between the ages of 18 - 64</li> <li>• Not meeting criteria for depression, mania, or mixed episode at the start of the study</li> <li>• Ability to sign informed consent</li> </ul>	<p>RCT</p> <p>IPSRT sessions were carried out as individual therapies, with a total of 10-12 sessions, weekly, then biweekly and monthly.</p>	<p>Individuals assigned to routine treatment continued their routine treatment by the general practitioner, and at the same time, Bipolar Support: Canterbury provided information to these individuals about their training and services.</p>

**Table 3. CONT.**

Author	Country	Objective	Sample Group Characteristics	Inclusion Criteria	Study Design and Intervention Group Characteristics	Control Group Characteristics
Porter et al. (2020)	New Zealand	To compare the effect of medication management - IPSRT and medication management - SSC on cognitive function	IPSRT (n=49) SSC (n=51)	<ul style="list-style-type: none"> <li>Patients diagnosed with bipolar I, bipolar II, and bipolar disorder not otherwise specified</li> <li>Being between the ages of 15 - 36</li> <li>People who can speak sufficient English</li> </ul>	RCT IPT-SRT was conducted as individual sessions once a week for 3 months, biweekly for up to 6 months, and then biweekly to monthly for six to 18 months. Medication management was administered every 2 weeks for 2 months, once a month for 4 months, and then every 2 months, or earlier if necessary depending on the patient's mood.	SSC was conducted as individual sessions once a week for 3 months, biweekly for up to 6 months, and then biweekly to monthly for six to 18 months. Medication management was administered every 2 weeks for 2 months, once a month for 4 months, and then every 2 months, or earlier if necessary depending on the patient's mood.
Steardo et al. (2020)	Italy	To compare the effects of IPT-SRT and routine treatment on affective and anxiety psychopathology, social functioning, response to pharmacological treatment, and AMI	IPSRT (n=22) Continuing their routine treatment (n=22)	<ul style="list-style-type: none"> <li>Being between the ages of 18-70</li> <li>Receive a diagnosis of type I or type II Bipolar Disorder confirmed via Structured Clinical Interview for DSM 5 disorders,</li> <li>Stable treatment with mood stabilizers (lithium or valproic acid blood levels at therapeutic levels for at least 1 year</li> <li>Ability to sign informed consent</li> </ul>	RCT IPSRT was conducted in a total of 12 sessions, weekly 90-min individual sessions.	Routine follow-up treatment continued

effects, medical and behavioral management of drug side effects, and non-specific support elements. ICM sessions generally lasted 20–25 min. In addition, treatment algorithms for manic, depressive, and mixed episodes were determined for the pharmacotherapy treatments of both groups.<sup>[19,23]</sup> Frank et al.<sup>[23]</sup> (2005) conducted IPSRT and ICM sessions once a week for the first 12 weeks, then every 2 weeks, and once a month for approximately 2 years. Frank et al.<sup>[19]</sup> (2008)'s study is to determine the effect of IPSRT on occupational functioning lasted two and a half years.

Swartz et al.<sup>[26]</sup> (2012) compared IPSRT and quetiapine treatment in patients with bipolar II depression, and patients assigned to IPSRT received individual psychotherapy sessions of 45 min weekly for 12 weeks. Since three people in the IPSRT group had sleep problems, they were started on low-dose lorazepam, and the remaining 11 people did not receive any drug treatment. People in the quetiapine group were started with an initial dose of 50 mg/day and increased by 50 mg/day/week as tolerated, to a maximum of 300 mg/day.

Inder et al.<sup>[25]</sup> (2015) study, in which they compared IPSRT and SSC in young people with bipolar disorder (bipolar I and bipolar II and not otherwise specified), lasted 18 months. During this process, therapists met with patients weekly for 3 months, biweekly for 3–6 months, and then biweekly to monthly for 6–18 months. SSC is a modified treatment for bipolar disorder and created from an anorexia nervosa treatment study. SSC is designed as a control psychotherapy based on the core features of supportive psychotherapy in addition to the American Psychological Association-1994 (APA) guidelines for the management of bipolar disorder. SSC combines supportive psychotherapy and psychoeducation as the focus of each patient-initiated session. Patients who received IPSRT or SSC intervention also received psychopharmacological treatment. For medication-naïve patients (bipolar I disorder), lithium was started and attempts were made to optimize lithium levels for each patient. The alternative mood stabilizer used was sodium valproate or combined lithium and sodium valproate. For psychopharmacological treatment, the psychiatrist saw each patient every 2 weeks for 2 months, once a month for 4 months, and then, every other month or earlier depending on the patient's needs.

Crowe et al.<sup>[14]</sup> (2020) compared the use of IPSRT and general practice medical care (continuation of previous treatment) in bipolar disorder. IPSRT sessions were conducted for a total of 10–12 sessions, once a week in the 1st week, then biweekly, and monthly. Psychopharmacological treatments of individuals who participated in IPSRT sessions also continued. People assigned to general practice medical care remained under usual care by a general practitioner and were provided with information about education and services by Bipolar Support: Canterbury.

Porter et al.<sup>[24]</sup> (2020) compared the effects of medication management - IPSRT and medication management - SSC on cognitive function. For medication management, the psychia-

trist saw the patient every 2 weeks for 2 months, once a month for 4 months, and then every other month or more frequently if necessary depending on the patient's mood. SSC was designed by researchers as a control psychological treatment based on (APA-1994) guidelines for the management of bipolar disorder and the core features of supportive psychotherapy. While applying IPSRT and SSC, therapists met with patients once a week for 3 months, every 2 weeks for up to 6 months, and then every 2 weeks to once a month between 6 and 18 months.

Sterado et al.<sup>[4]</sup> (2020) compared the effectiveness of IPSRT and usual treatment on affective and anxiety psychopathology, social functionality, response to pharmacological treatment, and AMI in bipolar disorder. IPSRT was applied as individual psychotherapy for 90 min weekly for 12 weeks. The intervention is divided into four phases. The first two sessions focused on the disease history and aimed to determine the relationship between stressful life events and mood changes. The second phase consisted of four sessions focused on reorganizing social rhythms and increasing skills to cope with social stressors. The maintenance phase (four sessions) focused on reinforcing new social rhythms and building confidence based on learned techniques to prevent future attacks. The final phase consists of two sessions in which the skills acquired with IPSRT are discussed in more detail and recommendations are given for the future (Table 4).

### Measurement Tools Used and Results

In the studies, it was observed that the HDRS was used in five studies, the YMRS was used in three studies, the SCID-5-CV was used in three studies, the Montgomery-Asberg Depression Rating Scale (MADRS) was used in three studies, the Social Adaptation Scale (SAS) was used in two studies, the Clinical Global Impressions Scale-Bipolar version (CGI-BP) was used in one study, the Beck Anxiety Inventory (BAI) was used in one study, the Longitudinal Interval Follow-up Evaluation (LIFE) was used in two studies, the BRMS was used in two studies, the Quality of Life-Bipolar Disorder Scale (QoL-BD) was used in one study, the National Institute of Mental Health Life Chart Method was used in one study, the Inventory of Depressive Symptomatology (Self-Report) (IDS-SR) was used in one study, the Hamilton Rating Scale for Anxiety (HAM-A) was used in one study, the Mania Rating Scale (MRS) was used in one study, the Global Assessment Of Functioning (GAF) was used in one study, the Retrospective Criteria of Long-term Treatment Response in Bipolar Disorder (ALDA) was used in one study, the AMI was used in one study, and the Schedule for Affective Disorders and Schizophrenia (SADS) was used in one study to increase functionality and prevent attacks in individuals with bipolar disorder.

Frank et al.<sup>[23]</sup> (2005) used SADS, SCID-5-CV, HDRS, and BRMS scales in their study. As a result of this study, it was stated that participants assigned to IPSRT in the acute treatment phase were in remission for a longer period of time without experiencing a new episode and had a higher social rhythm pattern.



**Table 4. Characteristics of the studies included in the review (cont.)**

Author	Measurement tools	Conclusion	Follow-up process	Practitioner
Frank et al. (2005)	SADS, SCID-5-CV, HDRS and BRMS	Participants assigned to IPSRT in the acute treatment phase were found to be in remission for longer periods of time without experiencing a new attack period. Participants in the IPSRT group were found to have higher social rhythm patterns at the end of acute treatment	No	Social worker, nurse, psychologist, and psychiatrist
Frank et al. (2008)	SADS, SCID-5-CV, HDRS and BRMS	IPSRT has been found to improve occupational functioning more quickly than ICM by contributing to the improvement of interpersonal and role functioning.	1 <sup>st</sup> and 2 <sup>nd</sup> -year follow-up	Social worker, nurse, psychologist, and psychiatrist
Swartz et al. (2012)	HRSD, YMRS, SCID-5-CV, MADRS, CGI-BP and BAI	Although the treatment satisfaction of patients diagnosed with bipolar disorder II depression receiving IPSRT or quetiapine treatment was high in both groups, it was determined that there was no difference in terms of improvement between the groups.	No	Specialist psychologist
Inder et al. (2015)	Structured Clinical Interview Form, MADRS, YMRS, LIFE and SAS	IPSRT and SSC were found to be effective in reducing depressive and manic symptoms and improving social functioning in adolescents and young adults with bipolar disorder, and the difference between the two was not found to be significant.	Follow-up at 26 <sup>th</sup> , 52 <sup>nd</sup> , and 78 <sup>th</sup> weeks	Psychiatrist and nurse
Crowe et al. (2020)	LIFE, SAS, and QoL-BD	It was determined that the combination of IPSRT and drug therapy for 18 months did not significantly prevent mood attacks but improved the patient's functionality.	Follow-up at 26 <sup>th</sup> , 52 <sup>nd</sup> , and 78 <sup>th</sup> weeks	Specialist psychiatric nurse and social worker
Porter et al. (2020)	Cognitive tests, HMRS, SCID-5-CV, MADRS, and YMRS	Although there is no difference between IPSRT and SSC, intensive stabilization with IPSRT has been found to improve cognitive functions, especially in patients with weaker cognitive functions at the beginning.	No	Psychiatrist
Steardo et al. (2020)	National Institute of Mental Health Life Chart Method, IDS-SR, MADRS, HAM-A, MRS, GAF, ALDA, and AMI	IPSRT has been found to be effective in improving clinical symptoms and affective morbidity index in patients diagnosed with bipolar disorder.	3 <sup>rd</sup> and 6 <sup>th</sup> -month follow-up	Psychiatrist

Frank et al.<sup>[19]</sup> (2008) used SADS, SCID-5-CV, HDRS, and BRMS scales in their study. As a result of the study, it was stated that patients who started treatment with the combination of medication management and IPSRT achieved faster gains in occupational functioning, especially among women.

Swartz et al.<sup>[26]</sup> (2012) used HRSD, YMRS, SCID-5-CV, MADRS, CGI-BP, and BAI scales in their study. As a result of this study, it was stated that although the treatment satisfaction of patients diagnosed with bipolar II disorder and depression receiving

IPSRT or quetiapine treatment was high in both groups, no difference in terms of improvement was detected between the groups.

Inder et al.<sup>[25]</sup> (2015) used the Structured Clinical Interview Form, MADRS, YMRS, LIFE, and SAS scales in their study. As a result of the study, IPSRT and SSC, used in addition to pharmacotherapy, were found to be effective in reducing depressive and manic symptoms and improving social functionality in adolescents and young adults with bipolar disorder, and it was

stated that there was no difference between SSC and IPSRT. Crowe et al.<sup>[14]</sup> (2020) used LIFE, SAS, and QoL-BD scales in their study. As a result of this study, it was stated that the combination of IPSRT and pharmacotherapy for 18 months did not significantly prevent mood attacks but improved the patient's functionality.

Porter et al.<sup>[24]</sup> (2020) used cognitive tests, HMRS, SCID-5-CV, MADRS, and YMRS scales in their study. As a result of the study, they stated that although there was no difference between IPSRT and SSC, intensive stabilization was achieved with both interventions and patients with poor cognitive functions at the beginning showed improvement in their cognitive functions.

Sterado et al.<sup>[4]</sup> (2020) used the National Institute of Mental Health Life Chart Method, IDS-SR, MADRS, HAM-A, MRS, GAF, ALDA, and AMI scales in their study. They stated that as a result of this study, IPSRT was confirmed to be effective in improving the clinical symptoms and AMI of patients diagnosed with bipolar disorder.

## Discussion

Bipolar disorder progresses with depression and mania attacks. Stressful life events, irregular social rhythms, and non-compliance with medication are three important factors that trigger attacks.<sup>[8]</sup> 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.<sup>[9]</sup> IPSRT integrates behavioral, interpersonal, and psychoeducational approaches to prevent the onset of new bipolar episodes.<sup>[16,17]</sup> In this systematic review, studies conducted to determine the effectiveness of IPSRT in individuals with bipolar disorder were examined.

When seven studies included in the systematic review were examined, although the sample consisted of patients diagnosed with bipolar disorder, when examined in detail, it was observed that four studies consisted of patients diagnosed with bipolar I and bipolar II, two studies consisted of patients diagnosed with bipolar I disorder, one study consisted of patients diagnosed with bipolar II depressive episode, and finally, one study consisted of patients diagnosed with bipolar disorder. In addition, although the sample groups consisted of adults, the samples of the two studies were young people aged 18–35 and 15–36. The total sample number of seven studies is 657, with a minimum of 25 and a maximum of 175.

The interventions of the intervention groups are IPSRT and when we look at the interventions of the control groups, in one study, quetiapine treatment alone,<sup>[26]</sup> in two studies, researchers used SSC based on the APA (1994) guidelines for the management of bipolar disorder and the key features of supportive psychotherapy,<sup>[24,25]</sup> in one study, usual care by a general practitioner was used as well as Bipolar Support: The Canterbury organization. providing information about education and services,<sup>[14]</sup> in one study, patients continued their usual

treatment,<sup>[4]</sup> and in two studies, the Intensive Clinical Management<sup>[19,23]</sup> intervention, which is a manual-based approach to the medical management of bipolar disorder, was implemented. In only one of the seven studies, it was decided to apply only IPSRT to the intervention group, but three patients from this sample group had to start low-dose medication (lorazepam) for their sleep problems.<sup>[26]</sup> In all six other studies, IPSRT was applied in addition to psychopharmacotherapy in the intervention group.<sup>[4,14,19,23-25]</sup>

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.<sup>[9]</sup> Looking at the studies examined, it is seen that the sample groups consist of patients diagnosed with either only bipolar I, only bipolar II, or both bipolar I, bipolar II, and bipolar disorder not otherwise specified. In addition, it is generally mentioned in the literature that IPSRT can be applied both in the acute phase of the disease and in the remission period.<sup>[9,24,27]</sup> It is noteworthy that two of the studies examined were in the acute mania or depression period,<sup>[19,23]</sup> one study was in the depressive episode period,<sup>[26]</sup> and the remaining four studies were in the acute or remission period.<sup>[4,14,24,25]</sup>

All of the studies examined within the scope of this systematic review were from abroad, and no studies using IPSRT were found in our country. The reason for this is that there are limited places in our country where this therapy training can be received. In addition, the participants who applied IPSRT were psychology graduates in one study, psychiatrists in three studies, and psychologists, social workers, and nurses in the remaining three studies.

Since relapses in bipolar disorder cause the risk of suicide, psychosocial consequences, impairments in functionality, and alcohol-substance disorders that accompany the disease, it is necessary to avoid relapses.<sup>[12,19]</sup> The most important way to avoid relapses is preventive treatment. The literature shows that regular pharmacological treatment as well as regulation of social rhythms can reduce the number of attacks.<sup>[5,6]</sup> In the reviewed studies, it was observed that patients diagnosed with bipolar disorder who received IPSRT had fewer attacks or had quantitatively milder attacks.

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.<sup>[10,17,27]</sup> The therapy process consists of four stages: Initial phase, intermediate phase, preventive phase, and termination. It consists of 12–18 sessions in total, starting with weekly 45-min meetings in the initial and intermediate phases, and extending from once every 2 weeks to once a month in the preventive and termination stages, or ending with interim meetings when the patient needs it. Similar therapy session patterns were examined in the studies we reviewed.

## Conclusion

In the randomized controlled studies reviewed in the systematic review, it was determined that IPSRT in addition to pharmacotherapy was effective in preventing relapses, as well as programmed interventions (ICM, SSC) were effective in preventing relapses. Accordingly, it has been determined that pharmacotherapy alone is not sufficient to increase functionality and prevent relapses; when supported by IPSRT or programmed interventions, functionality increases, the frequency of relapses decreases, or relapses are milder. In this context, it is thought that psychiatric nurses will be effective in improving the functionality of individuals with bipolar disorder and reducing the frequency of relapses by adding social rhythm-based interventions to their practices.

IPSRT overlaps with Peplau's Interpersonal Relations Theory, one of the psychiatric nursing theorists that focus on the nurse and patient relationship, and additionally includes social rhythm interventions. This school of therapy is used very little in our country and there is no randomized controlled study on this subject. Psychiatric nurses can complete the necessary training and apply this school of therapy to patients diagnosed with bipolar disorder. It is recommended that IPSRT therapy should be made routine in clinical practice by conducting randomized controlled studies on the subject.

## Limitations of the Research

Including only studies in English and examining randomized controlled studies are presented as limitations of the systematic review.

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