

Effect of Motivational Interviewing on Medication Adherence in Patients with Bipolar Disorder: Systematic Review

Bipolar Bozukluk Hastalarında Motivasyonel Görüşmenin İlaç Uyumuna Etkisi: Sistemantik Derleme

Şeyma Erkuş¹, Elçin Babaoğlu²

¹Mudanya University, Bursa

²Uskudar University, İstanbul

ABSTRACT

This systematic review was conducted to examine the effect of motivational interviewing method on compliance with medication treatment in individuals diagnosed with bipolar disorder. In this systematic review, the literature was searched in the databases of "Cochrane, SpringerLink, Ovid, Science Direct, PubMed, ProQuest, Networked Digital Library of Theses and Dissertations (NDLTD), ULAKBİM, YÖKTEZ", published in the last 5 years, in English language, using the keywords and combinations of "motivational interviewing", "bipolar disorder", "adherence". The titles and abstracts of the studies were reviewed and 6 studies, including 4 randomized controlled trials and 2 nonrandomized studies, that met the inclusion criteria were included in the systematic review. As a result of this systematic review, it was determined that the motivational interviewing method was effective in increasing medication compliance in patients diagnosed with bipolar disorder. In the studies, it was determined that motivational interviewing was applied alone, with medication reminder system or with an educational program. It was determined that motivational interviewing was applied twice a week or twice a month, between 20-60 minutes and between 3-6 sessions. Subjective and objective measurement tools assessing medication adherence and symptoms were used to evaluate the effect of motivational interviewing. It is recommended to increase randomized controlled experimental research examining the effect of motivational interviewing method on medication adherence in patients diagnosed with bipolar disorder and to use motivational interviewing techniques and skills by mental health professionals to increase patients' medication adherence.

Keywords: Bipolar disorder, motivational interviewing, medication adherence, systematic review

ÖZ

Bu sistemantik derleme bipolar bozukluk tanılı bireylerde motivasyonel görüşme yönteminin ilaç tedavisine uyum üzerine etkisini incelemek amacıyla yapılmıştır. Bu sistemantik derlemede literatür taraması 'Cochrane, SpringerLink, Ovid, Science Direct, PubMed, ProQuest, Networked Digital Library of Theses and Dissertations (NDLTD), ULAKBİM, YÖKTEZ" veri tabanlarında, son 5 yılda yayınlanmış, İngilizce dilinde, "motivational interviewing", "bipolar disorder", "adherence" anahtar kelimeleri ve kombinasyonları kullanılarak yapılmıştır. Araştırmaların başlık ve özetleri gözden geçirilmiş ve dahil etme kriterlerini karşılayan 4'ü randomize kontrollü ve 2'si nonrandomize çalışma olmak üzere 6 çalışma sistemantik derlemeye dahil edilmiştir. Bu sistemantik derlemenin sonucunda motivasyonel görüşme yönteminin bipolar bozukluk tanılı hastalarda ilaç uyumunu arttırmada etkili olduğu belirlenmiştir. Çalışmalarda motivasyonel görüşmelerin tek başına, ilaç hatırlatma sistemi ile ya da eğitim programı ile birlikte uygulandığı tespit edilmiştir. Motivasyonel görüşmelerin haftada veya ayda 2 kez, 20-60 dk arasında ve 3-6 seans arasında uygulandığı belirlenmiştir. Motivasyonel görüşme yönteminin etkisini değerlendirmek için ilaç uyumunu ve semptomları değerlendiren subjektif ve objektif ölçüm araçlarının kullanıldığı görülmüştür. Motivasyonel görüşme yönteminin bipolar bozukluk tanılı hastalarda ilaç uyumuna etkisini inceleyen randomize kontrollü deneysel araştırmaların artırılması ve ruh sağlığı profesyonelleri tarafından hastaların ilaç uyumunu arttırmak için motivasyonel görüşme teknik ve becerilerinin kullanılması önerilmektedir.

Anahtar sözcükler: Bipolar bozukluk, motivasyonel görüşme, ilaç uyumu, sistemantik derleme

Introduction

Bipolar Disorder is defined as a chronic mood disorder characterized by depressive attacks dominated by intense sadness and manic attacks with outbursts of anger and rage (APA 2013). According to the Global Burden of Disease report, 37.5 million people were diagnosed with Bipolar Disorder in 2021 on a global scale (IHME 2024). The published report determined that the lifetime prevalence of Bipolar Disorder was 3.5% (ABS 2023). Treatments used in the treatment of Bipolar Disorder consist of pharmacotherapy and psychosocial treatment modalities. Psychosocial treatment modalities include cognitive behavioral therapies, dialectical behavioral therapies, schema therapy, psychoeducation, and mindfulness-based cognitive psychotherapies (Tabas et al. 2023). Motivational Interviewing is among the psychotherapeutic interventions used to increase medication adherence in patients with Bipolar Disorder (Laakso 2011, McKenzie and Chang 2015, Tahghighi et al. 2023).

In Bipolar Disorder, supporting the acute treatment with prophylactic drug treatment plays important roles in the success of the treatment. However, non-adherence to drug treatment is a serious problem commonly detected in Bipolar Disorder patients. Adherence to treatment means coming to regular check-ups, using medications regularly, completing the treatment program, and implementing recommended behavioral changes (Ervatan et al. 2003). In the study conducted by Manhas et al. (2019), it was reported that 60% of the patients who were diagnosed with Bipolar Disorder missed more than three doses in a month. In the study conducted by Bal and Özsan (2023), it was reported that the rate of non-adherence to treatment reported by relatives of Bipolar Disorder patients was 38%. In a retrospective cohort study, it was found that 59.1% of 33.131 people diagnosed with Bipolar Disorder did not take at least one of their prescribed mood stabilizers and antipsychotic medications in the last three years, and 31% did not comply with at least 20% of their prescriptions (Lintunen et al. 2023). In the systematic review of Chakrabarti (2017) 132 studies that provided data on medication non-adherence were examined and it was reported that the average medication non-adherence was 40%-41% in Bipolar Disorder patients.

Non-adherence to medication treatment in patients with Bipolar Disorder is an important determinant of increased symptoms and hospitalization frequency. In a previous study, it was reported that patients' quality of life decreased because of medication non-adherence and relapses, frequency of hospitalization, care costs, suicides, and mortality increased (Karaytuğ et al. 2022). It was also reported in the study that the rate of medication non-adherence was 54.7% in patients diagnosed with Bipolar Disorder and the number of relapses increased as medication adherence decreased (Davarinejad 2021). In the study conducted by Abaatyo et al. (2023), it was found that patients mostly experienced physical aggression, moving away from home and mood swings because of medication non-adherence, and 69.4% of them were re-hospitalized within the first year for these reasons.

Motivational Interviewing is a directive and client-centered approach used to help individuals discover and resolve conflicts they face regarding behavioral changes (Miller and Rollnick 2009). It was first developed in 1983 by William R. Miller for individuals who had alcohol use disorders and is currently used to bring about behavioral changes in chronic diseases and the treatment of individuals with both physical and mental illnesses (Rollnick et al. 2008). It was reported that Motivational Interviewing is effective in providing behavioral change in areas such as smoking, alcohol and substance use, high blood pressure and cholesterol, insufficient physical activity, and excess weight, strengthening motivation, and increasing treatment adherence (Bischof et al. 2021).

Individuals' thoughts and feelings about their problems are revealed in motivational interviews, allowing them to discover contradictions, and their intrinsic motivation to bring about change is developed. Instead of convincing the individual to bring about change, counselors create an atmosphere that allows for change (Dicle 2017). In Motivational Interviewing, the individual is not forced to change, and instead, an environment that helps change is created (Miller and Rollnick 2002a). There are four communication skills used in Motivational Interviewing which include reflective listening, asking open-ended questions, summarizing, and supporting (Dicle 2017). The basic principles of Motivational Interviewing are to demonstrate an empathic approach to the patient, to uncover contradictions between their current situation and their targeted future, to work with resistance, and to support self-sufficiency (Laakso 2011, Dicle 2017, Çelik Örüçü 2020).

Motivational Interviewing is an important intervention method used to increase medication adherence in patients diagnosed with Bipolar Disorder. The factors causing medication non-adherence in patients are uncovered in Motivational Interviewing, their resistance to medication use is resolved, and as a result, behavioral changes are achieved and medication non-adherence is eliminated (Miller and Rollnick 2002b). In previous studies that were conducted with patients who had Bipolar Disorder, it was reported that patients' motivation

for change and self-efficacy increased, as well as medication adherence rates, after Motivational Interviews (McKenzie and Chang 2015, Tahghighi et al. 2023).

There is no systematic review in the literature that examined the effects of Motivational Interviewing on medication adherence in individuals receiving Bipolar Disorder treatment. The purpose of this systematic review was to examine the effects of Motivational Interviewing on medication adherence in individuals diagnosed with Bipolar Disorder. Based on this purpose, how Motivational Interviewing is applied, the duration and frequency of the interviews, the number of sessions, and the measurement tools used to evaluate the outcomes were also examined. It is considered that the results obtained in this systematic review will benefit the dissemination of Motivational Interviewing-based interventions by mental healthcare staff to increase medication adherence of individuals receiving Bipolar Disorder treatment.

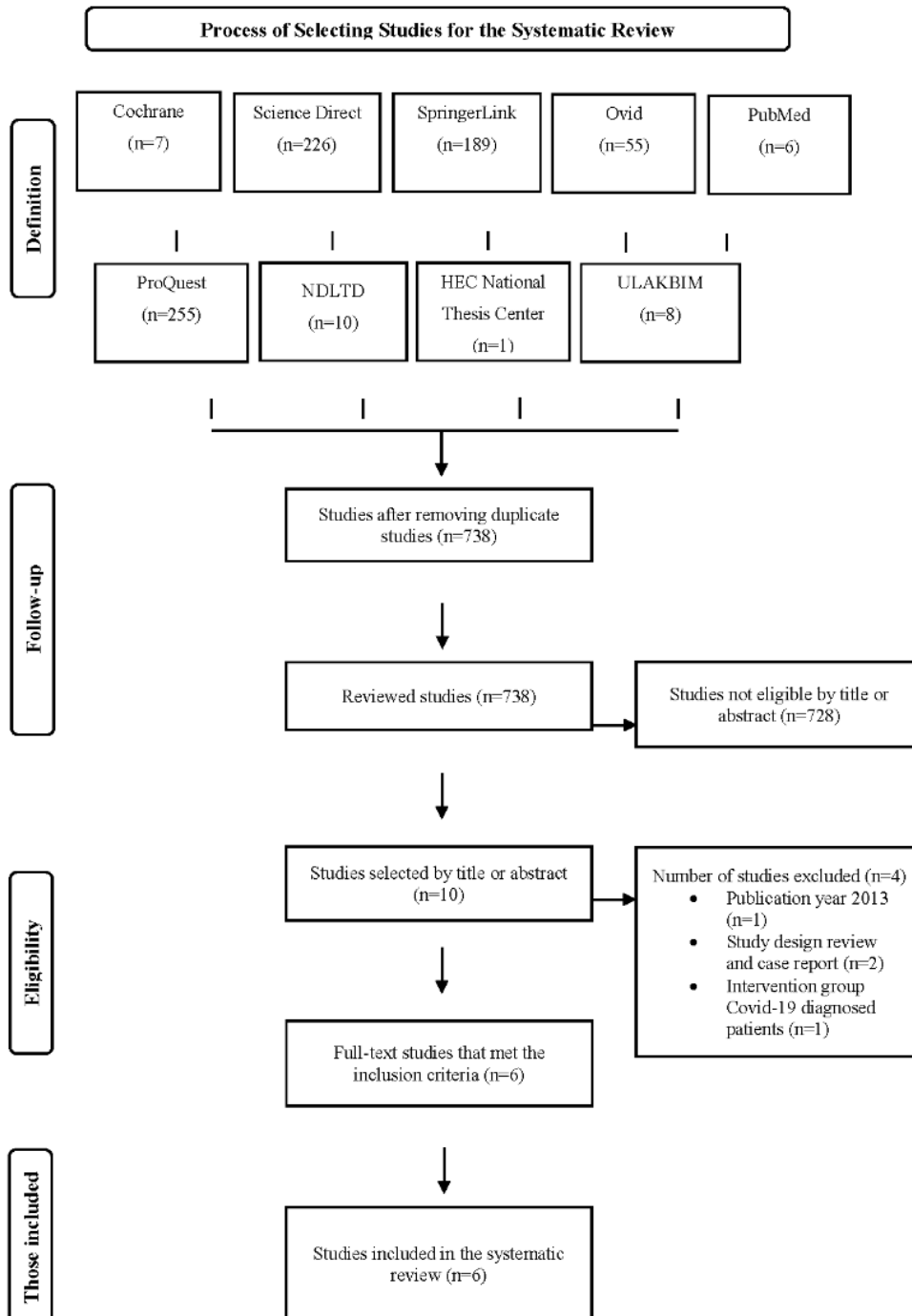


Figure 1. Flowchart of study selection prepared according to PRISMA 2020

Method

This review was prepared and reported according to the Cochrane Guideline 6.4.0 (2023) and PRISMA (2020) Guideline (Page et al. 2021, Higgins et al. 2023). To determine the effects of Motivational Interviewing on adherence to medication treatment in individuals diagnosed with Bipolar Disorder, “Cochrane, Science Direct, SpringerLink, Ovid, PubMed, ProQuest, Networked Digital Library of Theses and Dissertations (NDLTD), ULAKBIM, YOKTEZ” databases were searched in English between March and April 2024. The keywords “Motivational Interviewing”, “Bipolar Disorder”, and “adherence”, and their combinations were used in the review. The keywords used in the search were determined by using MeSH terms and Boolean (OR/AND) operators were used (Table 1).

The inclusion and exclusion criteria of this systematic review were determined according to the PICOS Method, which consists of participants (P: Population), interventions applied (I: Intervention), comparison groups (C: Comparison), study outcomes (O: Outcome), and study design (S: Study Design) (Higgins et al. 2023).

Table 1. Review strategy

(bipolar disorder OR affective psychosis OR bipolar disorder type 1 OR bipolar disorder type 2 OR bipolar mood disorder OR bipolar OR manic depression OR manic disorder OR manic-depressive OR manic depressive psychosis OR type 1 bipolar disorder OR type 2 bipolar disorder) AND (adherence OR medication adherence OR patient adherence OR medication compliance OR medication control OR medication management OR nonadherence OR medication nonadherence) AND (motivational interviewing OR motivational interview OR motivational intervention)
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Inclusion Criteria

P: Studies conducted on individuals treated for Bipolar Disorder and those with medication non-adherence

I: Studies that used Motivational Interviewing intervention

C: Studies that compared routine treatment or different modalities

O: Studies that examined the outcomes of adherence to drug treatment

S: Randomized-controlled or nonrandomized studies

Another inclusion criterion was that the studies were published between 2019 and 2024 (in the last 5 years). However, studies whose full texts were available were included in the scope of the review.

Exclusion Criteria

P: Studies conducted on individuals who were not receiving treatment for Bipolar Disorder and who were not compliant with medication

I: Studies conducted without Motivational Interviewing method

C: Studies where no comparison was made with routine treatment or different modalities

O: Studies that did not examine the outcomes of drug treatment adherence

S: Abstracts, case reports, editorial comments, compilations, and reports

Also, studies that were not published in the last 5 years and whose full texts were not accessible were not included in the review. As a result of the review, 757 studies were reached. In the first step, duplicate studies were eliminated and 738 studies were examined according to their titles and abstracts. Then, 728 studies that did not comply with the title and abstract were removed and 10 studies that complied with the title and abstract were examined according to the inclusion and exclusion criteria. One study was not included in the review because it was published more than five years ago (in 2013) 2 studies were compilations and case reports and therefore did not comply with the study design, and 1 study applied the Motivational Interviewing Method to patients diagnosed with COVID-19. In the final step, 6 studies that met the inclusion criteria were included in the review (Figure 1).

Assessing the Risk of Bias

Four of the six studies that were included in the review were randomized controlled trials, and the risk of bias in these studies was assessed by two researchers according to the Cochrane Risk of Bias Criteria. The risk of bias in the included studies was assessed at three levels (“low”, “unclear”, and “high”) (Higgins et al. 2017).

Cochrane Risk of Bias Criteria;

1. Randomization type: selection bias
2. Hiding randomization information: selection bias
3. Blinding personnel and participants: performance bias
4. Blinding in outcome assessment: detection bias
5. Incomplete outcome data: attrition bias
6. Selective reporting: reporting bias
7. Other biases

Randomization method, hiding randomization information, reporting bias, blinding in outcome assessment, attrition bias, and other biases were assessed as low bias in all studies. Since blinding participants and personnel in the applied interventions was difficult, this criterion was assessed as an unclear risk in all studies (Table 2).

	Randomization method	Hiding randomization information	Blinding of personnel and participants	Blinding in outcome assessment	Incomplete results data	Selective reporting	Other biases
Tahghighi et al. (2023)	+	+	?	+	+	+	+
Gülcü and Kelleci (2022)	+	+	?	+	+	+	+
Goldstein et al. (2020)	+	+	?	+	+	+	+
Yılmaz (2024)	+	+	?	+	+	+	+

(low risk: +, unclear risk: ?, high risk: -)

The other 2 studies that were included in the review were non-randomized experimental studies and were examined according to the Non-Randomized Experimental Studies Assessment Tool of Joanna Briggs Institute. The assessment tool consisted of 9 questions and assessed the risk of bias in studies. In the included studies, the answers were evaluated at 4 levels (“yes”, “no”, “unclear”, and “Not Applicable”) (Tufanaru et al. 2017).

Joanna Briggs Institute Assessment Questions

1. Is it clearly stated in the study what the “cause” and “effect” are?
2. Have participants been included in similar comparisons?
3. Have participants been assigned to receive similar care/treatment outside of the study intervention?
4. Is there a control group?
5. Have multiple measurements been made of the outcomes before and after the intervention?
6. Is the reason for the difference between groups clearly stated and analyzed?
7. Have participants been included in a control group whose outcomes are measured in the same way?
8. Have the results been measured reliably?
9. Have appropriate statistical analyses been used?

All questions in the studies were evaluated as “yes” and the studies were evaluated as having no risk of bias. Only 1 study (Nkeze 2020) was marked as “no” for the control group question because it had a pre-test-post-test design (Table 3).

	Nkeze (2020)	Harmancı and Yıldız (2023)
Is it clearly stated in the study what the “cause” and “effect” are?	+	+
Have participants been included in similar comparisons?	+	+
Have participants been assigned to receive similar care/treatment outside of the study intervention?	+	+
Is there a control group?	-	+
Have multiple measurements been made of the outcomes before and after the intervention?	+	+
Is the reason for the difference between groups clearly stated and analyzed?	+	+
Have participants been included in a control group whose outcomes are measured in the same way?	+	+
Have the results been measured reliably?	+	+
Have appropriate statistical analyses been used?	+	+

(Yes: +, unclear: ?, no: -, non-applicable: N/A)

Results

Characteristics of Studies Included

Six studies were included in the systematic review, 4 of which were randomized-controlled trials (Goldstein 2020, Gülcü and Kelleci 2022, Tahghighi et al. 2023, Yılmaz 2024) and 2 were experimental studies (Nkeze 2020, Harmancı and Yıldız 2023).

Table 4. Characteristics of the randomized controlled trials included in the systematic review

Author, year, and country	Purpose	Sample	Intervention	Duration, frequency, and number of sessions of Motivational Interviewing	Measuring tools	Conclusion
Tahghighi et al. 2023, Iran	Motivational Interviewing and education program on medication adherence in elderly patients with Bipolar Disorder.	A total of 64 patients aged 60 and over and diagnosed with Bipolar Disorder Experimental group: 32 Control group: 32	Motivational and educational sessions were applied to the patients in the experimental group. Routine clinical care was used for the elderly in the control group	Duration: 30-45 minutes Frequency: 1 month Number of Sessions: 4	The Morisky Medication Adherence Inventory was used to assess medication adherence. The measurement tools were administered before the intervention, immediately after the intervention, and one and two months after the intervention.	It was determined that the motivational-educational program was effective on medication adherence of elderly patients with Bipolar Disorder.
Gulcu and Kelleci, 2022, Türkiye	The purpose was to determine the effects of a telepsychiatric and individualized Motivational Interviewing-based program on medication adherence of Bipolar Disorder patients followed up in a community mental health center.	A total of 54 patients diagnosed with Bipolar Disorder aged 18-65 Experimental group: 28 Control group: 26	A Motivational Interviewing-based program was used for the patients in the experimental group. After the program, SMS messages were sent to the patients in the experimental group to remind them of their medications for 3 months.	Duration: 40-45 minutes Frequency: twice a week Number of Sessions: 6	The Morisky Medication Adherence Scale (MMAS) and Medication Adherence Rating Scale (MARS) were used to assess medication adherence. The measurement tools were administered before the intervention and at the end of the third and sixth months after the intervention.	Motivational Interviewing and telepsychiatric monitoring programs were found to be effective on medication adherence of Bipolar Disorder patients.
Goldstein et al., 2020, United States	The purpose of the study was to examine the effects of brief Motivational Interviewing intervention on medication adherence in adolescents with Bipolar Disorder.	A total of 43 patients diagnosed with Bipolar Disorder with an average age of 16 Experimental group: 20 Control group: 23	Motivational Interviewing sessions were applied to the patients in the experimental group. Also, a Bluetooth-enabled electronic pill box (MedTracker) was given to the patients as a reminder of their medications at	Duration: 30 minutes Frequency: 2 sessions for 4 weeks, 1 session in the 3rd month Number of Sessions: 3	MedTracker was used for objective assessment of medication adherence, and the A-LIFE Scale, which evaluates the longitudinal course of psychiatric symptoms, was used for subjective assessments along with the Motivational Stages of Change Scale for Adolescents, the	It was reported that a brief Motivational Interviewing program was effective on medication adherence in adolescents diagnosed with Bipolar Disorder.

			the beginning of the sessions.		Credibility/Expectancy Scale, and the Treatment Satisfaction Scale. The measurement tools were administered before the intervention and at three and six months after the intervention.	
Yılmaz, 2024, Türkiye	Motivational Interviewing on coping, functionality, treatment adherence, and quality of life in patients diagnosed with Bipolar Disorder.	A total of 48 patients aged 18-65 with bipolar I/II diagnosis for at least one year Experimental group: 24 Control group: 24	Motivational Interviewing sessions were applied to the experimental group.	Duration: 45-60 minutes Frequency: once a week Number of Sessions: 6	The Morisky Medication Adherence Scale (MMAS) was used to assess medication adherence along with the World Health Organization Quality of Life Scale Short Form, the Coping Attitudes Assessment Scale, and the Functioning in Bipolar Disorder Scale. The measurement tools were administered before the intervention, after the intervention (at the end of the 6th interview), and at 3 months (follow-up).	It was reported that the Motivational Interviewing affected the adherence to treatment of the patients diagnosed with Bipolar Disorder.

A total of 361 patients were evaluated in these 6 studies, with sample sizes ranging from 33 (Nkeze 2020) to 119 (Harmancı and Yıldız 2023). These studies were conducted in Iran (Tahghighi et al. 2023), Turkey (Gülcü and Kelleci 2022, Harmancı and Yıldız 2023, Yılmaz 2024), and the United States of America (Goldstein et al. 2020, Nkeze 2020) (Table 4, Table 5).

In four of these studies, the effects of Motivational Interviewing on medication adherence (Goldstein et al. 2020, Nkeze 2020, Gülcü and Kelleci 2022, Tahghighi et al. 2023), in 1 study, the effects of Motivational Interviewing on medication adherence and functionality (Harmancı and Yıldız 2023), and in the other 1 study, the effects of Motivational Interviewing on medication adherence, functionality, coping and quality of life (Yılmaz 2024) were examined (Tables 4, 5).

Characteristics of Motivational Interviewing in Studies Included

In two of these studies, only Motivational Interviewing was used as the intervention method (Harmancı and Yıldız 2023, Yılmaz 2024), in 2, Motivational Interviewing and Reminder SMSs (Nkeze 2020, Gülcü and Kelleci 2022), in 1, Motivational Interviewing and a Training Program (Tahghighi et al. 2023), and in the other 1, Motivational Interviewing and Smart Medicine Box (Goldstein et al. 2020) were used.

In the studies included in the review, the duration of Motivational Interviewing varied between 20 (Harmancı and Yıldız 2023) and 60 (Nkeze 2020, Yılmaz 2024) minutes. When the frequency of application of Motivational Interviewing was examined, it was applied once a week in 3 studies (Nkeze 2020, Harmancı and Yıldız 2023, Yılmaz 2024), twice a week in 1 study (Gülcü and Kelleci 2022), 4 times a month in 1 study (Tahghighi et al. 2023), and twice a month and once in the 3rd month in another study (Goldstein et al. 2020). When the number of sessions of Motivational Interviewing was examined, it varied between 3 (Goldstein et al. 2020) and 6 (Nkeze 2020, Gülcü and Kelleci 2022, Harmancı and Yıldız 2023, Yılmaz 2024).

In the studies included in the review, medication adherence of patients was assessed by using the Morisky Medication Adherence Scale (MMAS) (Gülcü and Kelleci 2022, Harmancı and Yıldız 2023, Tahghighi et al. 2023, Yılmaz 2024), Medication Adherence Rating Scale (MARS) (Nkeze 2020, Gülcü and Kelleci 2022), Drug Attitude Inventory (DAI-10) (Nkeze 2020), Bluetooth-Enabled Electronic Pill Box (MedTracker) (Goldstein et al. 2020),

Longitudinal Interval Follow-up Evaluation Scale (A-LIFE) (Goldstein et al. 2020), Montgomery-Asberg Depression Rating Scale (MADRS) (Nkeze 2020) and Young Mania Rating Scale (YMRS) (Nkeze 2020).

When the results of the studies were examined, it was found that Motivational Interviewing was found to be effective in medication adherence in all studies. As well as its effects on medication adherence, Motivational Interviewing was also reported to be effective on functionality in 1 of the studies (Harmancı and Yıldız 2023), and on functionality, coping, and quality of life in another study (Yılmaz 2024).

Table 5. Characteristics of nonrandomized experimental studies included in the systematic review						
Author, year, and country	Purpose	Sample	Intervention	Duration, frequency, and number of sessions of Motivational Interviewing	Measuring tools	Conclusion
Nkeze, 2020, United States of America	The purpose of this study was to investigate the effects of Motivational Interviewing and a medication reminder system in the form of short messages on medication adherence of adult patients diagnosed with Bipolar Disorder.	Experimental group: 33 patients with Bipolar Disorder, aged between 18-64, who could use the virtual network Control group: -	Patients in the experimental group received Motivational Interviewing via video-conferencing/teleconferencing along with reminder messages sent to the patients' phones twice a week via automatic short message service.	Duration: 60 minutes Frequency: once a week Number of Sessions: 6	Medication Adherence Rating Scale (MARS) was used to assess medication adherence along with the Drug Attitude Inventory (DAI-10). Also, the Montgomery-Asberg Depression Rating Scale (MADRS) and the Young Mania Rating Scale (YMRS) were used. The measurement tools were applied before and after the intervention.	A medication reminder system in the form of Motivational Interviewing and automatic text messaging was found to be effective in medication adherence of adult patients diagnosed with Bipolar Disorder.
Harmancı and Yıldız, 2023, Türkiye	The purpose of this study was to examine the effects of psycho-education and Motivational Interviewing on treatment adherence and functionality in individuals diagnosed with Bipolar Disorder.	A total of 119 patients aged 18 years and over diagnosed with Bipolar Disorder Motivational Interviewing group: 32, psycho-education group: 31 Control group: 56	Interviews were conducted face-to-face and individually with patients in the Motivational Interviewing group. Patients in the psycho-education group received face-to-face group training once a week for 25-30 minutes for 6 weeks.	Duration: 20-25 minutes Frequency: once a week Number of Sessions: 6	The Morisky Medication Adherence Scale (MMAS) was used to assess medication adherence along with the Bipolar Disorder Functioning Scale (BD-F). The measurement tools were applied before and after the intervention.	It was found that Motivational Interviewing and psycho-education did not differ in terms of treatment adherence and that both methods were effective in treatment adherence in individuals diagnosed with Bipolar Disorder.

Discussion

Motivational Interviewing plays important roles in creating behavioral changes regarding medication use and increasing treatment adherence in Bipolar Disorder patients with medication non-adherence (Laakso 2011). Motivational Interviewing is a psychotherapeutic intervention method used to eliminate medication non-adherence by increasing the motivation and self-efficacy of individuals with Bipolar Disorder (McKenzie and Chang 2015, Tahghighi et al. 2023). As a result of this systematic review, it was found in the studies examined that Motivational Interviewing was found to be effective in increasing medication adherence of individuals with

Bipolar Disorder (Goldstein et al. 2020, Nkeze 2020, Gülcü and Kelleci 2022, Harmancı and Yıldız 2023, Tahghighi et al. 2023, Yılmaz 2024). As well as medication adherence, the studies included in the systematic review reported that Motivational Interviewing was also effective in improving functionality (Harmancı and Yıldız 2023, Yılmaz 2024), coping skills and quality of life (Yılmaz 2024).

Although drug treatment plays important roles in successfully continuing the treatment of Bipolar Disorder and controlling the symptoms of the disease, non-adherence to drug therapy is a common problem. Previous studies reported that drug adherence rates were low in patients with Bipolar Disorder (Perlis et al. 2010, Manhas et al. 2019, Bal and Özsan 2023). In a systematic review examining drug adherence of individuals diagnosed with Bipolar Disorder, the report that this rate was 40%-41% shows the seriousness of the problem of drug non-adherence (Chakrabarti 2017). Non-adherence to medication treatment leads to an increase in disease symptoms in individuals diagnosed with Bipolar Disorder and therefore an increase in the frequency of hospitalization. Also, 69.4% of patients with medication non-adherence are re-hospitalized within a year because of reasons such as physical aggression, mood disturbance, and running away from home (Abaatyo et al. 2023). Relapse rates because of non-adherence to medication treatment can increase up to 73% in five years (Kora et al. 2008). The quality of life decreases and suicide and mortality rates increase in Bipolar Disorder patients who are non-adherent to medication treatment (Karaytuğ et al. 2022).

Many psychosocial treatment modalities are used to ensure medication adherence in the treatment of Bipolar Disorder. Motivational Interviewing is among these methods as a client-centered counseling method that eliminates the dilemma experienced by the patient about whether to use medication or not and aims to uncover behavioral changes by increasing intrinsic motivation (Çelik Örüçü 2020). Behavioral changes are brought about by revealing the opposing feelings of patients that cause resistance to medication use and resolving these feelings in the Motivational Interviewing Method (Dicle 2017).

In the studies that were included in this systematic review, how Motivational Interviewing was applied, session durations, how often and how many sessions were applied, and which measurement tools were used to evaluate the outcomes were also examined. It was found that Motivational Interviewing was applied alone, with a medication reminder system, or with an educational program. Motivational Interviewing was most often applied with a medication reminder system. Short Message Service was also used as a medication reminder system in 2 studies and smart medication boxes were used in 1 study. In 2 of the other studies, Motivational Interviewing was used alone and in 1 study, it was used along with an educational program. Motivational Interviewing can also be used with other treatment modalities (Arkowitz and Burke 2008). The strategies and techniques used in this method are particularly similar to Cognitive Behavioral Therapy (Ögel 2006). There are also studies in the literature reporting that Motivational Interviewing Techniques are used by integrating them into Cognitive Behavioral Therapy (Aviram and Westra 2011, Hsieh et al. 2012, Miller 2023).

When the duration of Motivational Interviewing was examined, it varied between 20-60 minutes in the studies included. It is recommended that the duration of Motivational Interviewing should be at least 15 minutes and at most 50 minutes (Miller and Rollnick 2013, Arkowitz et al. 2015). In a meta-analysis conducted by Rubak et al. (2005), it was reported that even 15-minute short motivational interviews had a high level of effect. In a systematic review that examined the effects of Motivational Interviewing on adolescents in our country, it was reported that this duration was between 15-90 minutes (Ceylan and Kılıçarslan Törüner 2020). The results obtained in this study are also consistent with the literature data, and it is considered that this duration may vary depending on the group to which the Motivational Interviewing is applied, the characteristics of the client, and the competence of the counselor.

When the frequency of Motivational Interviewing was examined in the studies included in the systematic review, it varied between 2 times a week and 2 times a month. Although no information was detected in the literature regarding the frequency of Motivational Interviewing, the importance of the follow-up period was emphasized. This period may vary from a few months to a few years (Özdemir and Taşçı 2012). However, it was also emphasized that Motivational Interviewing was more effective in studies with a long-term follow-up period. It was reported to be effective in 36% of studies that had a follow-up period of 3 months and in 81% of studies with a follow-up period of 12 months or longer (Rubak et al. 2005). In a meta-analysis examining the effects of Motivational Interviewing in patients with schizophrenia, it was reported that those who had a follow-up period of 3 months had higher effects on medication adherence than those with a follow-up period of 1 month (Uzun and Gürhan 2021). Increased follow-up periods increase the effects of Motivational Interviewing. Among the studies included in this systematic review, 4 had follow-ups ranging from 2 to 6 months, and 2 did not have any follow-ups.

When the studies were examined, the number of sessions of Motivational Interviewing varied between 3-6. There is no standard number of sessions specified for Motivational Interviewing in the literature. It is striking that Motivational Interviewing can generally be applied in a range ranging from 2 to 10 sessions. However, it has been reported that Motivational Interviewing was found to be more effective in studies with more than 5 sessions (Rubak et al. 2005). It is important for Motivational Interviewing to be performed in line with basic principles and communication skills in terms of its effectiveness. Progressing quickly may prevent the qualified use of Motivational Interviewing Techniques. Failure to create an empathic atmosphere that will cause behavioral changes may cause the client to develop a resistance that is difficult to cope with. For this reason, increasing the number of interviews with the patient may be an important element in increasing the effectiveness of Motivational Interviewing.

The effects of Motivational Interviewing were evaluated by measuring the increase in medication adherence or the decrease in symptoms. In the studies reviewed, Morisky Medication Adherence Scale (MMAS), Medication Adherence Rating Scale (MARS), and Drug Attitude Inventory (DAI-10) were used to assess medication adherence, and a Bluetooth-Enabled Electronic Pill Box (MedTracker) was used in 1 study as a different tool. An important indicator of increased medication adherence may be improvement in symptoms. In the studies included, the Longitudinal Interval Follow-up Rating Scale (A-LIFE), Montgomery-Asberg Depression Rating Scale (MADRS), and Young Mania Rating Scale (YMRS) were used to assess improvement in symptoms. The number of randomized controlled trials that examined the effects of Motivational Interviewing on medication adherence of individuals diagnosed with Bipolar Disorder is insufficient. For this reason, nonrandomized studies were also included in the systematic review. Other limitations were that studies published in the last five years and whose full texts were available were included in the review.

Conclusion

This systematic review concluded that Motivational Interviewing has positive effects on increasing medication adherence in Bipolar Disorder patients. It was found that Motivational Interviewing was applied alone, with a medication reminder system, or with an educational program, and Motivational Interviewing was applied twice a week or a month, for 20-60 minutes, and 3-6 sessions and subjective and objective measurement tools were used to evaluate medication adherence and symptoms in the reviewed studies to evaluate the effects of the Motivational Interviewing method. Since the number of randomized controlled studies conducted on the effects of Motivational Interviewing on medication adherence in patients with Bipolar Disorder is limited, it is recommended that studies on this subject be conducted. Mental healthcare professionals who have important responsibilities in providing medication management for patients diagnosed with Bipolar Disorder must use Motivational Interviewing Techniques and skills to increase medication adherence in patients.

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