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Impact of Motivational Interviewing-Based Program on Nonadherence to Psychotropic Medications

A Scholarly Project

Presented to

The Faculty of Regis College

In Partial Fulfillment
of the Requirements of the
Doctor of Nursing Practice Degree

by

Martin Mutesasira PMHNP, RN, BSN

November 3, 2024

Abstract

Problem Statement: Medication nonadherence remains a concerning problem among patients with psychiatric disorders. While acknowledged, the practicum site has not established a program to support patients in achieving adherence.

Purpose: The project aims at implementing a medication adherence program based on motivational interviewing to improve adherence to psychotropic medications.

Methods:

Inclusion Criteria:

Analysis:

Implications for Practice:

Keywords: medication adherence, nonadherence, motivational interviewing

This scholarly practice project of Martin Mutesasira, entitled Impact of Motivation Intervention-Based Program on Nonadherence to Psychotropic Medications

directed and approved by the faculty chair, has been accepted by the Nursing Faculty of Regis College in fulfillment of the requirements for the Doctor of Nursing Practice.

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Acknowledgments

[This page acknowledges those who helped complete the project: colleagues, faculty, project participants, personal assistance. Refer to APA Publication Manual, 2020, p. 36-37.]

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Chapter I: Introduction

Introduction

Non-adherence to psychotropic medications imposes a significant burden on individuals with mental health disorders. Patient-related factors such as unintended forgetfulness, poor insight, and negative attitudes towards psychotropic medications contribute significantly to the non-adherence. In addition, inadequacies in clinician-patient communication, support, and guidance have been found to affect adherence among individuals with mental health problems significantly (Ghosh et al., 2022). In this regard, the absence of clinician-led supportive programs could exacerbate the effects of patient-related factors in causing non-adherence to psychotropic medications. Non-adherence to psychotropic medications has been associated with multiple negative effects on patients, including worsening of symptoms, high hospitalization rates, risk of readmission, and frequent emergency department visits (Eshtehardi et al., 2021; Semahegn et al., 2020). In addition, non-adherence has significant financial implications, with increased direct medical costs and indirect losses from unemployment, lost productivity, and absenteeism (Ali et al., 2023). While medication adherence support through motivational interviewing (MI) is established as effective in addressing the problem (Goldstein et al., 2020; Gülcü & Kelleci, 2022), the practicum site has not implemented the intervention. Therefore, the Scholarly Practice Project (SPP) project aim at addressing non-adherence to psychotropic medications based on the implementation of a nurse-led, MI-based adherence program. The Self-Care Deficit Theory (SCDT) offers an appropriate theoretical framework that will help in leveraging individual's beliefs and attitudes to drive behavior change. The Knowledge to Action

(KTA) framework will be used as the evidence-based practice (EBP) model for project implementation.

Background

The prescription of psychotropic medication has significantly increased in the U.S., amid the rising prevalence of mental health disorders (Brauer et al., 2021). While pharmacotherapy is critical to managing mental health disorders, nonadherence to psychotropic medications remains a concerning and persistent issue. Medication nonadherence can be considered an outcome of motivation and ability that influence intentional or unintentional adherent behaviors. It includes failing to initiate treatment, skipping doses, taking less than the prescribed dose, delayed timing of doses, or failing to persist on pharmacotherapy. According to Zeleke et al. (2023), nonadherence is among the common causes of treatment failure and relapse among individuals with mental health disorders. Optimal adherence is essential for the achievement of the expected treatment outcomes, amelioration of psychiatric symptoms, and improvement of patients' quality of life.

Across the globe, almost 85% of patients taking psychotropic medications are considered nonadherent (Foley et al., 2021). The pooled prevalence for nonadherence recorded across studies ranges from 42.6% to 55.2% (Foley et al., 2021; Gebeyehu et al., 2019), implying that over 50% of patients under psychotropic medications do not take them as prescribed. The rates of non-adherence have been found to vary across mental health disorders, with studies revealing prevalence of 44%-52% in bipolar disorder, 50%-52% in major depressive disorder, and 56%-61% in schizophrenia (Malik et al., 2019; Semahegn et al., 2020). Medication nonadherence imposes significant costs on individuals and the healthcare system. At the global level, non-adherence has been shown to cost European countries an upward of €80–€125 billion, (or $88-

$137 billion in the current conversion rate) annually. In the U.S., nonadherence imposes an upward of $300 million in excess costs annually (International Longevity Center, UK [ICLUK], 2022; Stewart et al., 2023). At the individual level, the cost of non-adherence per person with a psychiatric diagnosis ranges from $2512 to $25,920 per year (Eshtehardi et al., 2021). According to Semahegn et al. (2020), over 30% nonadherent to psychotropic medications experience long-term dependence or disability. In addition, nonadherence has been associated with poor patient outcomes, including delayed achievement of treatment outcomes, high hospitalization rates, readmission, frequent emergency department visits, and wastage of healthcare resources. The evidence shows a significant burden of nonadherence to medications.

Factors Affecting Patients in Psychotropic Use

A range of patient-related factors determine adherent behaviors through their effects on individual motivation and ability (Stewart et al., 2023). For example, lack of innate motivation, poor insight, negative beliefs and attitudes to psychotropic medications, and forgetfulness have been shown to significantly affect adherent behaviors (Fiszdon et al., 2022; Hsieh et al., 2020). Poor insight in mental health disorders implies that patients have low awareness about their symptoms and the importance of taking medications as prescribed. In addition, studies have shown that low levels of mental health literacy and education, stigma towards mental health disorders, and older age could increase the risk of nonadherence to psychotropic medications (Dou et al., 2020; Gudeta., 2023). Medication-related factors such as experience of side effects could also contribute significantly to nonadherence. Besides, clinician-related factors could exacerbate nonadherence. For instance, evidence shows that inadequate follow-up, guidance, and adherence support from clinicians could influence the behavior significantly (Zeleke et al., 2023). Consistent adherence also requires quality clinician-patient communication to address

problems with the complexity of the prescribed regimen while upholding patient autonomy (De las Cuevas, 2023). In this regard, patients with mental health disorders and at a high risk of nonadherence should receive adequate clinician-led adherence support to ensure the adoption of the expected behavior. Nevertheless, this cannot occur without an adequately trained and skilled nursing workforce, implying the need for a nurse training programs.

Multiple Interventions Supporting Medication Adherence

Multiple interventions have emerged to address nonadherence. While evidence supports the effectiveness of multicomponent interventions such as reminder systems, cost-sharing initiatives, and dose simplifications (Anderson et al., 2020), Baryakova et al. (2023) argued that complexity and resource-intensiveness of these interventions reduce their cost-effectiveness. In addressing the problematic nature of interventions, Konstantinou et al. (2020) recommend the need for personalized interventions that address unique patient beliefs and attitudes that influence their adherent behaviors. Current evidence identifies motivational interviewing (MI) as a crucial evidence-based intervention that could address the problem. With its roots in substance abuse treatment (Miller & Rollnick, 2013), MI has found significant use across clinicals settings as a way of addressing ambivalence. The intervention is considered critical considering that nonadherent behaviors emanates from motivation and ability that relate to beliefs and attitudes (Stewart et al., 2023). Indeed, the intervention has found support from national organizations such as the Agency for Healthcare Quality and Research and the National Council for Mental Wellbeing. MI serves as a source of clinician-led support that drives motivation for behavior change (Hsieh et al., 2020). Research shows statistically significant improvements in adherence following the implementation of the intervention, with both short- and long-term effects on adherent behaviors (Gülcü & Kelleci, 2022; Harmancı & Budak, 2022; Taghighi et al., 2023).

The effectiveness of the intervention is based on improved awareness and insight about the importance of adherence and the trust-based relationships that emerge during the sessions.

Addressing the Culture of Nonadherence in Current Practice

Regardless, the practice site has not implemented any supportive programs to enhance adherence to psychotropic medications. While the problem of nonadherence is acknowledged, patients only receive medication-related education at the time of diagnosis and prescription without additional efforts to ensure adherence. The gaps relapse to the lack of adequate staff training on evidence-based medication adherence interventions. Consequently, this implies that clinicians do not dedicate adequate time to counsel patients who may be struggling with adherence. As noted by Kvarnström et al. (2021), this leads to poor communication that prevents optimal discussion of adherence problems with the patients. Without a supportive program, the practicum site faces a significant burden of care for nonadherent patients who often experience symptom exacerbation and recurrence. As Li et al. (2023) observed, healthcare teams also waste significant clinical time in handling emergencies among nonadherent patients, which is detrimental to the overall organizational performance and productivity. Therefore, this implies the need for a well-designed adherence program that could benefit the patient population served.

Significance

Nursing Practice

Implementing an educational program for nurses on motivational interviewing would have significant effects on the nursing practice. For example, the intervention would increase the nurses' knowledge and skills in adherence counselling, fostering their competence in developing trust-based therapeutic relationships. Consequently, this lays the foundation for high-quality,

patient-centered, and effective care planning (Molina-Mula & Gallo-Estrada, 2020). As revealed earlier, many nonadherent patients often seek emergency care because of frequent relapses. Therefore, the intervention could reduce the workload associated with caring for patients with frequent symptom relapses. The breadth of nurse-patient interactions during MI sessions would ensure shared decision-making. Shared decision-making is considered a platform for collaborative goal setting that prioritizes unique patient needs and preferences (Montori et al., 2023; Munear et al., 2022). In turn, this approach could reduce the complexity of care planning for nurses, resulting in satisfaction with the care offered.

Nursing Research

The intervention is also critical to nursing research. It contributes to the growing body of research regarding the effectiveness of MI as an evidence-based intervention to address medication nonadherence. At the same time, it draws attention to the need for efforts to address upstream causes of nonadherence. As observed by Oates et al. (2020), nonadherence could be associated with unmet needs and social adversities, as well as system-level factors such as knowledge gaps. Training the nursing workforce would establish the groundwork for the development of structured risk stratification to inform the personalization of care. In turn, ongoing research could help in the incorporation of the tools in practice and enhance the identification and management of unmet needs that cause nonadherence.

Nursing Education

The project offers an opportunity for experiential learning, which is crucial in nursing education. According to Strand and Tveit (2020), implementing scholarly projects under supervision enhances competence in engaging in quality improvements at the practice level. In

addition, the project draws attention to the importance of continuing professional development (CPD) for EBP implementation. As recommended by Dijkstra et al. (2021), nurses should continually evaluate and engage in proactive efforts improve their knowledge, skills, and expertise. In this regard, this project offers an opportunity for the enhancement of nurses' knowledge on psychosocial interventions that could significantly influence patient outcomes. participating in continuing education courses regarding MI could be critical to the widespread adoption of the intervention in practice.

Nursing Leadership/Administration

Nursing leaders should consider medication adherence as a complex problem that requires appropriate interventions. The implementation of this project will illustrate the importance of leadership commitment to improving patient outcomes. It could motivate the implementation of ongoing educational courses to enhance MI skills in the nursing workforce. Consequently, the commitment could support the nursing staff in efforts to enhance their competence and efficacy in delivering supports to the patient population. In addition, the project could prompt the dedication of resources targeting upstream factors that increase the risk of nonadherence to psychotropic medications.

Problem Statement

While the problem of nonadherence is acknowledged, patients at the practicum site only receive medication-related education at the time of diagnosis and prescription refills without additional efforts to ensure adherence. Primarily, this is because the practice site has not established a supportive educational program to enhance nurses' knowledge and competence in supporting patients with medication adherence. Consequently, this implies that clinicians do not

dedicate adequate time to counsel patients who may be struggling with adherence. As noted by Kvarnström et al. (2021), this also reflects poor communication that prevents optimal discussion of adherence problems with the patients. Without a supportive program, the practicum site faces a significant burden of care for nonadherent patients who often experience symptom exacerbation and recurrence. Li et al. (2023) observed that healthcare teams also waste significant clinical time in handling emergencies among nonadherent patients, which is detrimental to the overall organizational performance and productivity. Therefore, this implies the need for a well-designed adherence program that could benefit the patient population served.

Clinical/Practice Question(s)

The scholarly practice project will focus on the following clinical question: Among mental health nurses (P), does the implementation of training program on a motivational interviewing-based adherence support (I), compared to the current practice (C), impact staff knowledge and skills on MI and medication adherence (O) in 12 weeks (T)? ["Can training mental health nurses on motivational interviewing enhance their knowledge and skills and improve medication adherence behaviors in patients?]

Purpose of the Project

Negative beliefs and attitudes towards psychotropic medications increases the risk of nonadherence in the absence of appropriate supports. The practice gap identified shows an inadequacy of adherence support at the practicum site. Consequently, is to implement a training program on MI and assess its impact on nurses knowledge and skills and subsequent adherence to psychotropic medications among patients receiving support from the trained nurses.

Project Aim/Measurable Objectives

The aim of the project is to determine the effectiveness of an MI-based educational program on nurses knowledge and skills in using the approach and medication adherence behaviors among patients prescribed psychotropic medications. In this regard, the project will seek to fulfil the following measurable objectives: (a) recruit mental health nurses at the practice site, (b) conduct an educational and training program on MI skills with the nursing staff, (c) implement and coordinate personalized MI sessions with patients over 8 weeks, and (d) assess the changes in staff knowledge and skills and patient's adherence behaviors.

The sustainability of practice changes often poses challenges, limiting the long-term impact of the interventions (Minogue et al., 2021). As supported by Moon et al. (2022), sustaining the project and ensuring its embedment in daily clinical work will require adequate leadership commitment. An accountable and visible nurse-led team will be charged with the continuity of the program, overseeing the training of new nurses on MI. in addition, the team will ensure frequent assessment of unique patient factors causing non-adherence and ensure personalized support to those struggling. Secondly, the sustainability of the project will require organizational-wide engagement. According to Silver et al. (2019), the engagement of stakeholders supports shared learning, ensuring on ongoing commitment to change and improvements. In this regard, the DNP student, as the project manager, will collaborate with the nurse leaders in organizing weekly meetings to share experiences about the newly adopted approach.

Theoretical or Conceptual Framework

Dorethea Orem's self-care deficit theory (SCDT) provides an appropriate theoretical framework that can inform the implementation of a program aimed at enhancing medication

adherence. SCDT identifies three related concepts (self-care, self-care agency, and self-care demand) that relate to the ability to accomplish essential daily functions (Orem, 1995). The theory considers self-care as a multidimensional and fluid concept that reflects a dynamic process involving reciprocity between individuals and their environment (Martinez et al., 2021). Self-care entails an individual's actions to maintain health and wellbeing. Self-care agency refers to the ability to act, which is founded on motivation, willingness, and interest in the activity. Self-care demand involves the specific actions focused on a specific demand. Self-care deficits emerge from the inability to accomplish essential daily functions that could affect health and wellbeing. Factors such as resource limitations, knowledge inadequacies, disability, poor insight, and lack of motivation could lead to the deficits (Maruca, 2023). The theory acknowledges that reinforcement of self-care agency could lead to the engagement in activities that promote health and wellbeing.

Based on the theory, nurses should not consider patients as inactive recipients of care. Instead, they should view them as reliable, capable, and responsible agents in making decisions related to their care (Khademian et al., 2020). Pertaining to enhancing medication adherence, the project could adopt the supportive-educative system, which is among the nursing systems Orem described as essential to addressing self-care deficits. Based on this system, the nurse should educate, support, and guide the patient in improving capacity to engage in self-care activities. As supported by Maruca (2023), nurses would act as facilitators of self-care by providing the required education, guidance, and support to empower patients towards medication adherence. By recognizing the innate capacity of patients to engage in self-care, the theory places patient empowerment at the center of care. In this way, the theory allows a shift from the passive model of care to active patient participation. Motivational interviewing would place the responsibility

for goal-setting on the patients, fostering a sense of ownership in the adoption of the expected behavior. Pertaining to the theory's concepts, MI is expected to act on self-care agency, which relates to the influence of the environment on self-care behaviors. The theory recognizes the uniqueness of patients' self-care needs and preferences. In this regard, Mi will offer an opportunity to tailor the support provided to meet the unique needs. The theory has been used in studies focused on self-management of chronic diseases such as diabetes (Younas, 2019). While the study does not focus on mental health, it illustrates the importance of enhancing self-care to improve adherence.

Philosophical Assumptions

In SCDT, self-care practices relate to estimative procedures (acknowledgement of deficits), transitional procedures (knowledge of actions required), and productive procedures (action and evaluation of outcomes) whose accomplishment relates to five philosophical assumptions. Firstly, SCDT considers individuals as agents who need deliberate and continuous interaction and communication with the environment to stay alive Orem, 2001). The ontological assumption implies the shared need for optimal health in all individuals. Secondly, the theory considers individuals as independent and responsible for deliberate actions that enable them to meet their self-care demands. As such, the theory considers self-care as a conscious action targeting an individual's unique needs and requiring independent judgment. Thirdly, SCDT posits that individuals must maintain continuous connections with others and the environment in the journey to meeting their self-care demands. As highlighted by Gligor and Domnariu (2020), the continuous interactions allow an exploration of needs, exchange of knowledge, and acquisition of support that could reinforce an individual's self-care agency. The fourth assumption is that exercising agency involves an ongoing process of learning, development, and

communication of needs to others and justifying one's actions (Orem, 2001). According to Tanaka (2022), the assumption implies that human-to-human interaction precede the nurse-patient interface because it allows nurses to gain a comprehensive understanding of the needs that patients convey. Consequently, nursing agency could foster a tailored approach to supporting individuals with deficits in meeting their self-care needs. Finally, SCDT posits that individuals within the structured relationship, for instance, nurses and patients, should be responsible and accountable to the other members (Orem, 2001). While nurses educate, lead, assist, and support patients in meeting their self-care demands, patients should take responsibility to adapt their behaviors based on the knowledge and skills gained (Isik & Fredland, 2023).

7 Consistent with SCDT's assumption, motivational interviewing acknowledges the importance of upholding patients' autonomy in decisions about change. Consequently, patients can take deliberate actions to meet their needs. In addition, MI considers interpersonal relationships and open communication as crucial in the change process. Open-ended questions, reflective listening, and affirmations portray empathy that can empower patients to convey their needs for tailored support (Stewart et al., 2023). Consequently, nurses act as facilitators in evoking change talk and enhancing individuals' motivation for change. Based on action-orientation and mutual understanding of needs, patients can learn from the education and support offered by nurses to achieve the expected change.

Evidence-based Practice (EBP) Model

5 According to Dusin et al. (2023), choosing an appropriate evidence-based practice (EBP) model allows implementers to map the change process, determine the resources required, identify barriers and facilitators, and plan on solutions to mitigate the barriers. The proposed project will use the knowledge-to-action (KTA) model. The model allows systematic and

iterative process of knowledge translation that relies on planned action in influencing change (Graham et al., 2006; Ramos-Morcillo et al., 2020). The model encompasses two components – the knowledge-creation cycle and action cycle – that provide a framework for change implementation (Graham & Tetroe, 2010; Graham et al., 2006). The knowledge-creation cycle involves knowledge inquiry (search for primary evidence), knowledge synthesis (appraisal of the evidence and consideration of second-generation knowledge from menta-analysis or meta-synthesis), and the generation of knowledge tools. The cycle enables the identification of appropriate supporting evidence and its presentation in a clear and understandable format to guide the change process and uptake of the knowledge. The action cycle involves seven phases focused on problem identification, contextualization of the knowledge, assessing barriers, tailoring the intervention implementation, monitoring knowledge use, evaluating outcomes, and sustaining knowledge use.

Figure 1 below illustrates the fit between the framework's components and the SPP. The iterative process started with the identification of a practice problem involving the lack of a supportive nurse-led program to enhance adherence to psychotropic medications. Knowledge inquiry and synthesis focused on the problem and the role of MI in addressing it. Clinical practice guidelines were also reviewed and will enable the training of the nursing staff on MI. In addition, several barriers and facilitators that could influence the implementation have been identified. The proposed intervention will be tailored to reflect the Organizational Toolkit on Medication Adherence by the National Council of Mental Wellbeing (2021). Monitoring of knowledge use will involve formative assessment involving weekly staff meetings, observation and review of MI sessions, tailored feedback, and ongoing support to the nursing staff. The outcomes will be evaluated using Morisky Medication Adherence Scale (MMAS-8) and the

Medication Understanding and Self-Efficacy (MUSE) questionnaire. Sustainability measures will involve ongoing review of MI use in daily clinical practices, staff retraining and professional development, and monthly meetings to share experiences and knowledge about MI use.

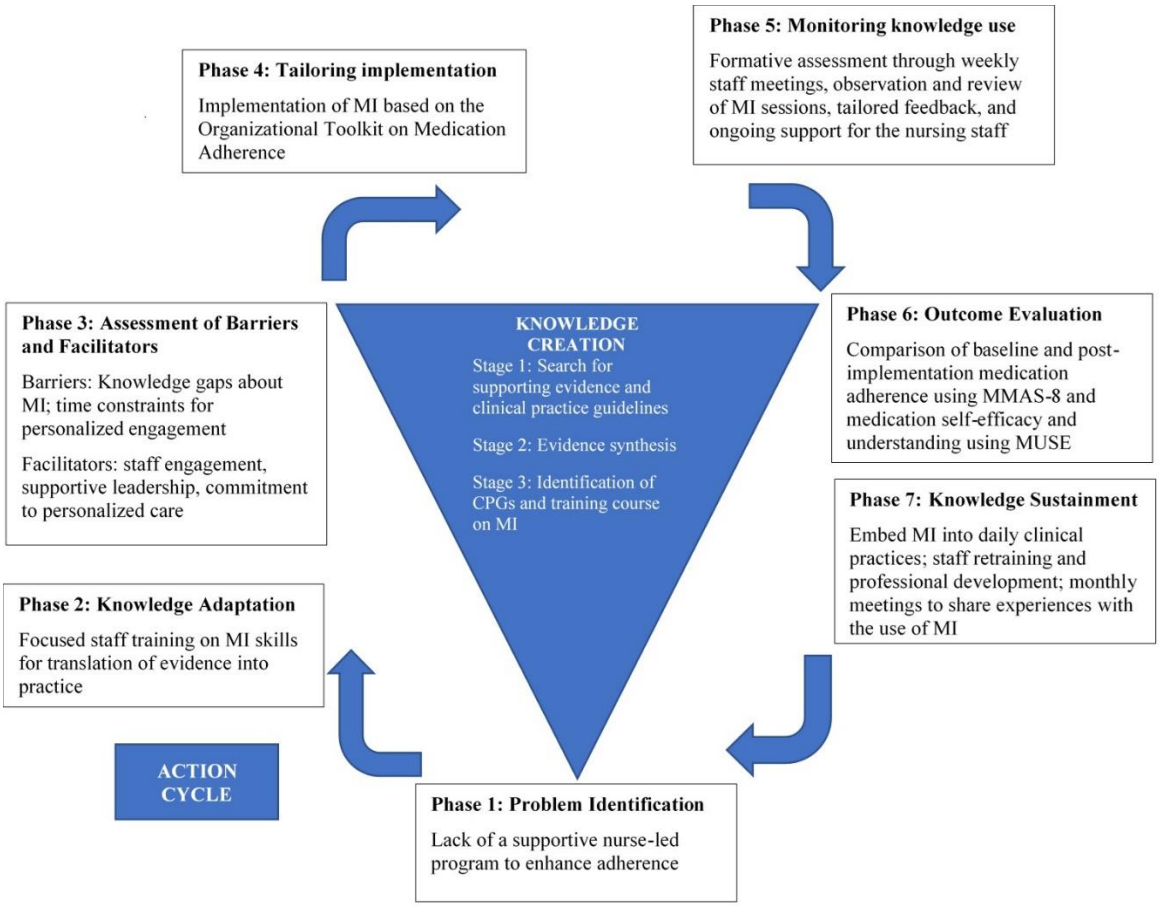

Figure 1. The Knowledge-to-Action Framework. Adapted from "Lost in knowledge translation: time for a map?." by Graham, I.D., Logan, J., Harrison, M.B., Strauss, S.E., Tetroe, J., Caswell, W., & Robinson, N., 2006, *Journal of Continuing Education in the Health Professions, 26*(1), 19.

Conclusion

The chapter provided the background knowledge relating to the lack og a supportive nurse-led program to enhance medication adherence. As revealed, nonadherence to psychotropic medication poses a significant challenge for patients and the healthcare system. The lack of adherence support at the practicum site compounds patient-related factors that lead to nonadherence. The chapter identified a nurse-led MI-based program as a potential intervention to address the problem. Moreover, it discussed the significance of the program to nursing practice,

research, education, and leadership. The identified problem enabled the development of a PICOT question to guide the project and the specific aims and objectives. Further, it explored the SCDT as the theoretical framework and the KTA framework as the underpinning EBP model, noting the fit of the project question into the model. It is expected that using the structured approach to implementing the program will lead to sustainable outcomes.

Chapter II: Literature Review

Introduction

The proposed scholarly project aims at implementing motivational interviewing (MI) to address nonadherence to psychotropic medications. An electronic database search canvassing PubMed, MEDLINE, CINAHL, PsycINFO, PsycARTICLES, and Cochrane Central Register of Controlled Trials (CENTRAL) was performed between 14 October, 2024 and 14 February, 2025 to identify the relevant literature. As supported by Tawfik et al. (2019), combining several databases broadened the scope of the search, decreasing the changes of missing relevant articles. The primary objective was to identify studies focused on different areas of nonadherence, including the prevalence, determinants, and different interventions to address the problem. In addition, the search focused on the effects of MI on adherence and the factors that drive its success. The keywords included "training," "education," "motivational interviewing," "nurse," "adherence," "nonadherence," "adherence interventions," "behavioral interventions," "medications," "psychotropic," "mental," "psychiatric," "medical," and "outcomes." Medical Subject Headings (MeSH) terms and synonyms of the keywords were used as needed. As recommended by Aveyard and Bradbury-Jones (2019), Boolean operators "AND/OR" were used to combine the keywords into searchable strings, expanding or narrowing the search to find relevant literature. A manual search of references across some of the studies was also conducted to acquire additional articles not identified from the electronic database search.

The search was limited to articles published at least seven years ago (2019 to 2025) to acquire the most recent and best-available evidence for the topic. The inclusion criteria encompassed all studies published in English and investigating or reporting the effects of MI on medication adherence without considering the age group first. Pertaining to study designs, the

inclusion criteria focused on randomized controlled trials (RCTs), systematic reviews, meta-analyses, quasi-experimental studies, mixed-methods studies, and individual qualitative or quantitative studies, and other types of reviews. Conversely, articles published in languages other than English and not investigating interventions for medication adherence were excluded from the search. Initially, the search did not discriminate between physical and mental health conditions or adult and adolescent samples. However, studies involving adolescent samples and those involving adolescent samples were considered supporting evidence for the SPP, alongside some of the nonempirical studies identified.

Literature Review

For a logical and systematic synthesis of the evidence, the identified articles were placed on the Levels of Evidence Table (Table 1). In turn, each article was critically appraised using the Johns Hopkins Critical Appraisal Form (Table 2), allowing the delineation of the study findings and the levels of evidence. Aggregating the data into the table was essential to identifying empirical evidence supporting the intervention and the nonempirical and supportive evidence for each of the themes identified. In turn, a Literature Review Matrix was created, extending the appraisal form by adding the study design, the sample and sampling procedures, and the instruments and data collection approaches used. The relevant data from the identified studies were used in constructing the themes for data analysis. Table 3 in the appendix illustrates the Literature Review Matrix. Three overarching themes were developed from the identified studies: medication nonadherence among mental health patients, success factors for MI, and effects of MI on medication adherence. The findings from the empirical evidence are organized thematically below.

Empirical Evidence

Medication Nonadherence among Mental Health Patients. The search did not identify many empirical studies based on experimental designs reporting different aspects of medication nonadherence among patients with mental health disorders. Evidence was derived from quantitative correlational, cross-sectional studies, and quasi-experimental studies (Dou et al., 2020; Eshterhardi et al., 2021; Gebeyehu et al., 2019; Gudeta et al., 2023; Hsieh et al., 2019; Zeleke et al., 2023). Sample sizes ranged from n=200 to n=1,978 and included individuals diagnosed with a range of severe psychiatric disorders, including depression, schizophrenia, bipolar disorder, and anxiety.

The studies reported relatively stable and high nonadherence rates [38.8% (Dou et al., 2020), 55.2% (Gebeyehu et al., 2019), 50.9% (Zeleke et al., 2023), and 62.3% (Gudeta et al., 2023). The evidence shows the high burden of nonadherence among patients with mental health disorders that requires addressing. Further exploration of the factors contributing to the problem can inform a focused approach to implementing interventions.

Medication nonadherence was related to several patient-, illness-, treatment-, and system-related factors. Consensus emerged regarding the effect of medication side effects, poor insight, medication side effects, prolonged medication use, alcohol and substance use, social support, and negative medication-related beliefs on adherence (Dou et al., 2020; Gebeyehu et al., 2019; Gudeta et al., 2023; Hsieh et al., 2019; Zeleke et al., 2023). Other relevant determinants reported individually included, age, employment and insurance status, perceived stigma, level of education, number of previous hospitalizations, comorbidities, dosing frequency, follow-up, and therapeutic alliance. Surprisingly, employment and health insurance coverage were linked to poor adherence in depression, while a comorbidity of depression and anxiety was associated with

higher odds of adherence (Eshtehardi et al., 2021). Of the empirical studies, only Hsieh et al. (2019) highlighted motivation-based strategies as appropriate interventions for nonadherence. The findings reveal that motivation-based interventions improve adherence via their impact on therapeutic alliance, insight, and medical social support.

Although these studies used cross-sectional data, they provide crucial insights into factors that could be addressed during MI sessions in the SPP. One of the merits of the studies was the sample size estimation based on power analysis (Gebeyehu et al., 2019; Gudeta et al., 2023; and Zeleke et al., 2023). Using validated instruments to measure adherence, including MARS (Gudeta et al., 2023; Hsieh et al., 2019) and MMAS (Zeleke et al., 2023) strengths the validity of the findings and aligns with the SPP. Nevertheless, it should be acknowledged that the self-reported measures could lead to an overestimation of non(adherence) because of recall bias, which is a major limitation of these studies (Dou et al., 2020; Eshterhardi et al., 2021; Gebeyehu et al., 2019; Gudeta et al., 2023; Hsieh et al., 2019; Zeleke et al., 2023). In additional, the cross-sectional nature of the studies limits inferences about the cause-effect relationship. Therefore, the evidence should be translated or applied with caution in the SPP based on the understanding that the determinants could change over time.

Success Factors for MI. Direct and indirect evidence about the ingredients or critical success factors required for MI to achieve its intended effects (Dobber et al., 2020; Ertem et al., 2019; Fiszdon et al., 2022; Goldstein et al., 2020; Gülcü & Kelleci, 2022; Tahghighi et al., 2023). Dobber et al. (2020) was the only level III study included under this theme. The study highlighted empathy and trusting relationships as the key and most influential determinants of successful MI. Besides, evidence supported the utility of MI skills such as open questions, reflections, affirmation, and emphasis on control in eliciting "patient change talk" (Dobber et al., 2022; Goldstein et al., 2020; Gülcü & Kelleci (2022). The skills enable the exploration of ambivalence, negative medication-related beliefs, and treatment expectations before initiating the change process. In addition, the number of sessions, comprehensiveness of MI and interview content, clinicians' MI skills and competence, and frequency of follow-up could affect the success of MI (Ertem et al., 2019; Fiszdon et al., 2022; Goldstein et al., 2020). Consequently, ongoing training, support, and supervision is required to ensure up-to-date MI skills and knowledge for success and sustained effect.

The strengths and weaknesses of most studies were comprehensively discussed earlier. While Dobber et al. (2020) offers crucial insights, the mixed-methods design has its shortcomings in that the findings may have contained subjective biases. In addition, the mechanisms of change studied could not be measured objectively, while the small sample limited its generalizability. Nevertheless, these findings are applicable in the SPP considering the emphasis on staff training to enhance MI skills. Pre-implementation and ongoing staff training and support will be an essential ingredient for the success of MI in the proposed project.

Effects of MI on Medication Adherence. Six studies with empirical evidence supporting the effects and effectiveness of MI on medication adherence were identified (Ertem et al., 2019; Fiszdon et al., 2022; Goldstein et al., 2020; Gülcü & Kelleci, 2022; Harmancı & Yıldız, 2023; Tahghighi et al., 2023). The studies inform the SPP directly based on level I and level II evidence acquired using randomized controlled and quasi-experimental designs. All studies used samples of patients diagnosed with psychotic spectrum disorders (schizophrenia, schizoaffective disorder, affective disorder with psychotic features, or delusional disorder) and bipolar disorder. The uniformity of the diagnoses provides a foundation for a comprehensive understanding of the effects of MI within psychiatric settings. The samples ranged from n=43 to n=114, 1:1 random allocation to the intervention (MI) and control (standard care).

Consistent evidence emerged regarding the effects of MI on adherence, with incremental change based on number of sessions attended (Ertem et al., 2019; Fiszdon et al., 2022; Goldstein et al., 2020). While some studies had relatively short intervention and follow-up duration (Harmancı & Yıldız, 2023), the longer follow-ups in other (4-6 months) reveal the possible long-term effects of the intervention (Ertem et al., 2019; Fiszdon et al., 2022; Goldstein et al., 2020; Gülcü & Kelleci, 2022; Tahghighi et al., 2023).

The studies also reveal the mechanisms through which MI influences adherence. For instance, the positive effects were linked to improvements in insight, consistent session attendance, readiness for change, and medication self-efficacy (Ertem et al., 2019; Fiszdon et al., 2022; Goldstein et al., 2020; Tahghighi et al., 2023). The mediating effects are possibly associated with improvements in therapeutic alliance, social support, disease awareness, and problem or symptom recognition. Therefore, these aspects could be emphasized during the

project's MI sessions considering their potential influence on the relationship between MI and adherence.

The strength of these studies relates to their methodological rigor. With follow-up periods of between four and six months, the studies provide strong evidence regarding the sustained effects of MI on adherence (Ertem et al., 2019; Fiszdon et al., 2022; Goldstein et al., 2020; Gülcü & Kelleci, 2022; Tahghighi et al., 2023). The method of randomization varied across the studies, with simple randomization (Ertem et al., 2019; Goldstein et al., 2020; Gülcü & Kelleci, 2022) or block randomization (Fiszdon et al., 2022; Tahghighi et al., 2023) being used. Regardless of the technique, the process was crucial in reducing selection bias that could have influenced outcomes between groups. Consequently, the absence of randomization in Harmancı & Yıldız (2023) may have introduced bias, reducing the quality of the findings. While sample characteristics were significantly similar, the approach to sample recruitment differed and may have affected the validity of the findings. Power analysis was analysis was performed in four of the studies, which is a crucial strength of these studies (Ertem et al., 2019; Goldstein et al., 2020; Harmancı & Yıldız, 2023, Tahghighi et al., 2023). Power analysis ensures the sample size is adequate (sufficiently powered) in case of a high probability of rejecting the null hypothesis falsely. Consequently, the lack of power analysis in Fizdon et al. (2022) and Gülcü & Kelleci (2022) may have led to underpowered samples, hindering the detection of meaningful between-group differences that could have influenced the outcomes. The degree of blinding across the studies varied, implying differences in their strengths pertaining to detection and performance bias. Fiszdon et al. (2022) blinded both participants and assessors to treatment allocation, while Goldstein et al. (2020) and Tahghighi et al. (2023) blinded their studies during outcome assessment. The inadequate blinding may have led to Hawthorne effect, affecting the overall

quality of the findings. While the studies used psychometrically validated instruments such as MARS and MMAS, the self-report measures may have led to an overestimation of the treatment effects. Moreover, each study was a single-center RCT, which may influence the generalizability of the findings. Regardless, the studies primarily involve psychiatric samples, which aligns with the SPP.

Supporting Literature

The supporting literature highlights the significant burden of nonadherence to medication. The literature focused on psychiatric settings reflect the wider evidence across care settings. For instance, the prevalence reported in previous studies were 42.6% (Foley et al., 2021), 49% (Semahegn et al., 2020). However, the prevalence of nonattendance tends to differ with diagnoses and comorbidity of psychiatric and medical conditions. The review aligns with the wider evidence base regarding the determinants of nonadherence, with the categories of patient-, illness-, treatment-, and system-related factors featuring across other studies (Foley et al., 2021; Malik et al., 2020; Semahegn et al., 2020; Konstantinou et al., 2020; Stewart, 2023). In adding to the literature, Malik et al. (2020) and De las Cuevas (2023) highlight the role of patient autonomy in influencing adherence. According to the studies, a threat to an individual's autonomy could result in psychological reactance, leading to poor adherence. The literature supports a range of interventions, including reminders, dose simplification, follow-up, monitoring, incentives, psychoeducation, cognitive behavioral techniques, psychosocial interventions (social support), psychoeducation, and motivational strategies (Almansour et al., 2023; Anderson et al., 2020; Baryakova et al., 2023; Konstantinou et al., 2020). While De las Cuevas (2023) emphasize the importance of individualized support, empowerment, and shared decision-making in motivational strategies, Baryakova et al. (2023) noted that these interventions

may sometimes be complex and yield limited effects. Therefore, MI should be adopted as an ongoing process founded on positive relationships.

The effectiveness of MI on adherence also cuts across mental and physical health conditions. For instance, MI could enhance adherence via improved insight, readiness to change, cognition, medication self-efficacy, and amelioration of negative benefits (Barikani et al., 2021; Bischof et al., 2021; Mohamed Eldaghar et al., 2023; Li et al., 2020). However, successfully implementing MI and achieving the expected effects depends on multiple factors. For example, the wider body of evidence also highlights the role of ongoing staff training, patient-clinician relationships, clinicians' MI skills, level of exposure to MI (Bischof et al., 2021; Cahaya et al., 2023; Frey et al., 2021; Li et al., 2020; Li et al., 2023; Papus et al., 2023). Ongoing staff training is critical to imparting technical and relational MI skills, and helping nurses to understand and respond to change and sustain talk. In addition, the supporting literature aligns with the theoretical framework. Consistent with Martinez et al. (2021), nonadherence reflects the reciprocity and interaction between individual factors and the environment. Some common causes of self-care deficits related to nonadherence include poor insight, knowledge gaps, and lack of motivation (Maruca, 2023). Nursing agency plays a critical role in enhancing self-care agency among patients, with evidence showing the importance of staff training in improving this component (Bischof et al., 2021; Li et al., 2023; Papus et al., 2023). Consistently, knowledge improvements (nursing agency) would influence patients adherence behaviors (self-care agency) by fostering targeted actions on self-care deficits.

Impact on Population Outcomes

Nonadherence to psychotropic medications remains an ongoing issue, with evidence showing pooled prevalence rates as high as 55% and higher for some disorders (Foley et al.,

2021; Gebeyehu et al., 2019; Malik et al., 2019; Semahegn et al., 2020). Nonadherence results in frequent relapses, worsening of symptoms, high hospitalization and rehospitalization rates, ED visits, wastage of resources, disability, which increase the cost of care (Eshtehardi et al., 2021; Semahegn et al., 2020; Stewart et al., 2023). Implementing an MI program offers a supportive environment than could significantly improve medication adherence. Indeed, evidence shows that the enhancement of insight, development of positive attitudes, and establishment of therapeutic alliance after MI could sustain adherence for up to six months (Goldstein et al., 2020; Gülcü & Kelleci, 2022; Tahghighi et al., 2023). In turn, adherence could reduce the severity of psychiatric symptoms, leading to improved population outcomes such as morbidity, mortality, cost, and low QoL (Ertem et al., 2019; Fiszdon et al., 2022). Consequently, a nurse-led MI-based adherence program could significantly enhance the outcomes for the population served at the implementation site.

Legal and Policy Issues

Addressing medication nonadherence poses ethical concerns around involuntary treatment and legal obligations of mental health professionals. The Due Process Clause of the Fourteenth Amendment protects individuals from involuntary civil commitment for individuals facing deprivations of liberty because of their mental health status (Rogers, 2023). However, recent evidence shows a worrisome increase in involuntary psychiatric commitment in the country (Lee & Cohen, 2021), with worsening of symptoms due to nonadherence contributing significantly to the trend (Meroni et al., 2023). At the same time, involuntary treatment could lead to psychological reactance because of threats to autonomy, exacerbating subsequent nonadherence post-discharge (De Las Cuevas, 2023). Al Meslamani (2024) highlighted the importance of addressing policy gaps related to medication adherence through multiple strategies

supported by the law. The report emphasized the need for policies that balance between individual liberties and the burden of mental health disorders. MI supports a balanced approach to treating psychiatric disorders by upholding their autonomy, while preventing the deterioration of symptoms that could result in civil commitment.

Quality and Safety

Nonadherence to psychotropic medications is associated with poor patient outcomes and healthcare inefficiencies (Semahegn et al., 2020). However, an MI-based adherence program could help in addressing these issues, resulting in high-quality mental health care. As highlighted by the Agency of Healthcare Research and Quality (2025), quality of care relates to safety, effectiveness, patient-centeredness, timeliness, efficaciousness, and equitability. Consistently, MI is based on therapeutic relationships and shared decision-making (Bischof et al., 2021), which are essential components of patient-centered care (Molina-Mula & Gallo-Estrada, 2020). In addition, enhancing patients' understanding of their medication regimens through MI could mitigate adverse drug events (Tahghighi et al., 2023). As such, MI could enhance quality and safety of psychiatric care by ensuring a patient-centered care and safety risks that could emanate from nonadherence.

Cost-Effectiveness

Medication nonadherence imposes a significant financial burden on individuals and the healthcare system. Annual costs for the healthcare system exceed $300 million, with nonadherent patients having higher annual costs of care compared to adherent patients ($21,171 vs. $15,398) (Forma et al., 2020). While Armstrong and Little (2019) focused on a range of interventions, the results revealed significant cost-effectiveness of adherence interventions, including nurse-led MI programs. Studies in both primary and mental health settings reveal the cost-effectiveness of MI,

highlighting cost-savings from reduced burden of symptoms on individuals and the healthcare system (Satre et al., 2022; Tingulstad et al., 2023). Likewise, MI is expected to generate significant cost savings for the practicum setting by reducing relapse rates, ED utilization, hospitalization rates, and readmission rates.

Conclusion

Overall, the findings from the review have significant implications for nursing, patient outcomes, and the quality and effectiveness of care. The evidence informs EBP, which requires identifying, synthesizing, and appraising the most current and best-available literature. However, implementing MI requires a skilled workforce, which implies the need for ongoing staff training. Successful implementation of MI would influence patient outcomes beyond adherence positively. For example, it would be expected that improved adherence would reduce symptoms and improve patients' quality of life. The sustained effects of MI on adherence to over six months post-intervention suggest that the intervention could lead to long-term benefits when successfully implemented. Consequently, this would result in cost-effective care. Pertaining to the SPP, this evidence underscores the need for comprehensive training of the staff before the start of the program. An inadequately trained staff would not be capable of using MI skills to influence outcomes.

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Appendices

Table 1: Table of the Levels of Evidence

Level of Evidence	Description	Articles
Level I	Experimental study, randomized controlled trial (RCT), systematic review of RCT's, with or without meta-analysis	10
Level II	Quasi-experimental study, systematic review of a combination of RCTs and quasi-experimental, or quasi-experimental studies only, with or without meta-analysis	4
Level III	Non-experimental study, systematic review of a combination of RCTs, quasi-experimental and non-experimental studies only, with or without meta-analysis. Qualitative study or systematic review with or without a meta-synthesis	10
Level IV	Opinion of respected authorities and/or nationally recognized expert committees/consensus panels based on scientific evidence Includes: Clinical practice guidelines Consensus panels	0
Level V	Based on experiential and non-research evidence Includes: Literature reviews, quality improvement, program or financial evaluation, case reports, opinion of nationally recognized experts(s) based on experiential evidence	6

Table 2: Johns Hopkins Appraisal Form

Student Name: Martin Mutesasira
Date:
EBP Question: Can utilization of motivational interviewing provided by inpatient psychiatric nurses improve medication adherence in behavioral health patients?
Search Dates: 14 October, 2024 and 14 February, 2025
Databases: PubMed, MEDLINE, CINAHL, PsycINFO, PsycARTICLES, and Cochrane CENTRAL
Search Terms: "Health behavior change," "adherence," "nonadherence," "adherence interventions," "behavioral interventions," "motivational interviewing," "medications," "psychotropic," "mental," "psychiatric," "medical," and "outcomes"

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
1	Eshtehardi et al. (2021)	Non-experimental	**Sample:** Adults ≥18 years, currently receiving services at shelters, with an active prescription of antidepressants **Sample size:** N=200 **Setting:** U.S.	Employment (OR = 4.022; 95% CI: 1.244-13.044) and having insurance (OR = 2.923; CI: 1.225-6.973) were associated with high odds of medication nonadherence among individuals with depression. Among individuals with anxiety, employment was linked to higher odds of nonadherence (OR = 3.573; CI: 1.160-	The cross-sectional data cannot determine cause-effect relationship between the variables	Level II Good quality (B)

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
				11.010), while a comorbidity with depression (OR = 0.333; CI: 0.137-0.810) was associated with lower odds of nonadherence.		
2	Foley et al. (2021)	Systematic review and meta-analysis	**Sample:** Individuals with two or more chronic conditions **Sample size:** Individual samples ranged from 22 to 599,141 **Setting:** N/A	Nonadherence differed pertinent to measurement method, ranging from 44.1% to 76.5%. The study reported a pooled prevalence of 42.6%, ranging from 7.0% to 83.5%. Psychiatric and physical health comorbidity affected nonadherence significantly, with evidence supporting higher levels of nonadherence to antidepressants among those with depression.	The failure to stratify the analysis by age limits the interpretation of the results across age groups The inclusion-exclusion criteria may have excluded relevant studies, leading to over- or under-estimation of the rates	Level II Good quality (B)

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
				Medication-related beliefs and more conditions influenced intentional nonadherence. Better relations with care teams, regular monitoring, and insight improved motivation for adherence.		
3	Gebeyehu et al. (2019)	Non-experimental	**Sample:** Persons diagnosed with schizophrenia, MDD, or BD with two or more regular follow-ups at a referral hospital **Sample size:** N=377 **Setting:** Ethiopia	The study found an overall prevalence of 55.2% (CI: 46.9-60.2). Factors associated with high odds of nonadherence included age of 25-34 (OR = 3.04; CI: 1.27-7.29), twice-a-day prescription (OR = 4.60; CI: 2.25-9.43), poor insight (OR = 5.88; CI 2.08-16.59), and lack of social support (OR = 4.4; CI: 1.78-11.08).	Recall bias may have skewed the outcomes	Level III Good quality (B)

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
4	Malik et al. (2020)	Opinion of respected authorities	**N/A**	It identified perceived lack of control, therapeutic alliance with patients, stigma, and risk of dependence with non-adherence. The paper also outlined several interventions, including educational, behavioral, social, financial, and technological interventions, as well as medication reconciliation and integrated care.	The paper is based on experiential evidence and minimal empirical evidence limiting its applicability in practice	Level V Good quality
5	Dou et al. (2020)	Quantitative evidence based on a Non-randomized retrospective design	**Sample:** Individuals with SMI enrolled to the National Information System for Psychosis **Sample size:** N=3,33 (686 enrolled to the policy and 1,292 not enrolled)	Participants receiving medication adherence had better adherence (92.6%) compared to the comparator group (61.2%). Lower levels of education and older age were linked to	Retrospective design could introduce recall bias Confounding factors such as differences in prescribed drugs, social support, and patients' cognition could have	Level II Good quality (B)

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
			Setting: China	a high risk of nonadherence.	led to confounding	
6	Semahegn et al. (2020)	Systematic review and meta-analysis	**Sample:** Studies reporting (non)adherence among individuals with schizophrenia, BD, and MDD **Sample size:** 35 studies with a pooled sample of n=120,134 **Setting:** N/A	The pooled prevalence of nonadherence was 49%, but differed across conditions: BD – 44%, MDD – 50%, and schizophrenia – 56%. Clinical-, treatment-, and illness-related factors such as comorbidity, medication side-effects, complexity of the regimen, poor insight were associated with high nonadherence rates. Personal factors, including, perceived stigma, substance abuse, negative attitudes towards psychotropics, lower levels of education, and older age were	Some of the included studies had weak methodologies, implying the possibility of bias	Level II Good quality (B)

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
				also linked to nonadherence.		
7	Stewart et al. (2023)	Opinion of respected authorities	**N/A**	The study characterized adherence as an outcome of ability and motivation. In turn, patient-, illness-, treatment-, and system-related factors influence motivation and ability. The specific determinants include insight, age, comorbidity, complexity of the regimen, medication-related beliefs and attitudes, social support, and perceived stigma.	The descriptive nature of the study does not illustrate the cause-effect relationship between nonadherence and the determinants	Level IV Good quality (B)
8	Gudeta et al. (2023)	Non-experimental	**Sample:** Individuals attending follow-up for medication management with a confirmed psychiatric diagnosis **Sample size:** N=395	The study reported a prevalence of 62.3%. Nonadherence was associated poor insight (OR = 0.25; CI: 0.12-0.53), and negative medication-related beliefs	The cross-sectional design cannot reveal the exact factors leading to nonadherence The use of secondary data could have led to	Level III Good quality (B)

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
			Setting: Ethiopia	(OR = 0.36; CI: 0.16-0.81). On the contrary, history of lifetime alcohol use (OR = 3.18; CI: 1.31-7.72) and perceived stigma (OR = 2.31; CI: 1.01-531) predicted better adherence.	skewed data considering that its accuracy was not verified	
9	Zeleke et al. (2023)	Non-experimental	**Sample:** Severely ill mental patients receiving outpatient care **Sample size:** N=407 **Setting:** Ethiopia	The study reported a prevalence of 50.9%. Nonadherence was associated with medication use for >3 years (OR = 7.16; CI: 3.93-13.06), medication side effects (OR = 4.84; CI: 2.74-8.54), negative medication attitudes (OR = 3.87 CI: 2.26-6.62), current substance use (OR = 2.48; CI: 1.44-4.27), irregular	Self-reported data may have led to over- or underestimation of rates due to recall bias	Level III Good quality (B)

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
				follow-up (OR = 2.36; CI: 1.24-4.47), and inadequate family support (OR = 2.07; CI: 1.19-3.58).		
10	Konstantinou et al. (2020)	Scoping review	**N/A**	The study identified young age, low income, low education levels, medication costs, medication side effects, comorbidities, negative medication beliefs, and poor patient-clinician relationships as the common barriers. Personalized face-to-face and digitally delivered interventions such as psychoeducation, reinforcement and motivational reminder messages, and motivational interviewing	Small sample of studies were explored	Level V Good quality (B)

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
				have positive effects on adherence. Multicomponent interventions could address multiple barriers.		
11	Hsieh et al. (2019)	Non-experimental	**Sample**: Adults aged 20-64 and diagnosed with schizophrenia **Sample size:** N=373 **Setting:** Taiwan	The study reported a nonadherence prevalence of 52.8%. Medication (non)adherence was weakly correlated with symptom severity, number of hospitalizations, medication side effects, therapeutic alliance, and social support. Motivation for medication use had a partial but statistically significant mediating effect on the relationship between medication adherence and therapeutic alliance (50%), insight (41%),	The cross-sectional data cannot confirm the cause-effect relationship between MI and adherence	Level III Good quality (B)

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
				and medical social support (72%).		
12	De las Cuevas (2023)	Literature review	**Sample:** **Sample size:** **Setting:**	The findings link higher levels of psychological reactance and lower levels of perceived health control to poor medication adherence. It observes the need to enhance perceived control and minimize psychological reactance through individualized support, empowerment, and shared decision-making.	The descriptive results provide only background information that cannot confirm the relationship between the variables	Level V Good quality (B)
13	Almansour et al. (2023)	Literature review	**N/A**	The article reports the positive effects of MI on motivation for medication use and amelioration of beliefs and attitudes that lead to nonadherence.	The review does not assess for bias in the reported studies	Level V Good quality (B)

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
				It recommends using MI as an ongoing process founded on positive relationships.		
14	Anderson et al. (2020)	Systematic review of systematic reviews	**Sample: Sample size: Setting:**	Interventions such as reminders, dose simplification, follow-up, monitoring, incentives, psychoeducation, cognitive behavioral techniques, psychosocial interventions (social support), psychoeducation, and motivational strategies as crucial interventions for medication adherence.	Underlying evidence in most of the reviews was of low or very low quality	Level III Good quality (B)
15	Baryakova et al. (2023)	Literature review	**N/A**	The study acknowledges the complexity and limitations of patient-centric empowerment and educational interventions.	Descriptive results that do not inform the understanding of the causal relationship between the intervention and outcome	Level V Good quality (B)

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
				it proposes DDS as a potential approach to addressing determinants of nonadherence such as adverse effects and frequency of dosing.		
16	Barikani et al. (2021)	RCT	**Sample:** Adolescents with asthma **Sample size:** N=52 **Setting:** Iran	The intervention group has statistically higher mean scores across the three measures ($p <$ .05). The mean score differences between the intervention and control group were statistically significant ($p <$ .05) after adjusting the effect of pre-test scores.	Adherence behaviors among patients with asthma may differ from those among patients with mental health disorders.	Level I Good quality (A)
17	Bischof et al. (2021)	Systematic review	**Sample:** Studies on the effectiveness of MI in medical care **Sample size:** 1,300 RCTs	MI was associated with higher odds of adopting health-relevant behaviors (OR = 1.55; CI: 1.40-1.71)	No assessment of risk of bias	Level III High quality (A)

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
			and 150 reviews **Setting:** N/A	compared to no treatment or standard practice. Notably, it reports positive effects of MI on readiness for change (OR = 1.97; CI: 1.11-3.48), medication adherence (OR = 1.25; CI: 0.95-1.65), and overall treatment adherence (OR = 1.38; CI: 1.18-1.64). It recommends ongoing staff training on principles of MI.		
18	Cahaya et al. (2023)	Systematic review	**Sample:** Patients aged 18-65 years with a confirmed diagnosis of schizophrenia **Sample size:** Four RCTs with a sample of N=466 **Setting:** N/A	MI has positive effects on adherence but the outcomes may not be achieved with some populations. Factors such as the duration of each session, number of sessions completed,	Small pool of studies was reviewed	Level III Good quality (B)

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
				frequency of interviews, patient-clinician interactions, clinician training and MI skills, and work-related pressures influence the achievement of the expected outcomes. Establishing trust-based therapeutic alliance with patients, aligning MI strategies with patients' values and goals, and clinicians' ability to use MI skills positively influence the effect of MI on adherence.		
19	Ertem et al. (2019)	RCT	**Sample:** adults 18-65 years diagnosed with schizophrenia **Sample size:** N=40	MI was associated with statistically significant improvements in insight from baseline to six-month post-intervention follow-up (*p*	Small sample size may be underpowered to support the detection of meaningful between-group differences	Level I High quality (A)

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
			Setting: Turkey	<.001) in the intervention group but not the control group. Between-group analysis of "disease awareness" subscale revealed statistically significant differences at post-MI (p = 0.037), 3-moth follow-up (p = 0.004), and 6-month follow-up (p = 0.005). Similarly, differences in "correct recognition of psychotic experiences" subscale were statistically significant at post-MI (p = 0.03), 3-moth follow-up (p = 0.013), and 6-month follow-up (p = 0.004). Effect on medication adherence between the groups was also	Self-reported data is prone to recall bias	

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
				statistically significant at post-MI (p = 0.001), 3-moth follow-up (p < 0.001), and 6-month follow-up (p < 0.001).		
20	Fiszdon et al. (2022)	Quantitative evidence based on an RCT	**Sample:** Adult outpatients diagnosed with psychotic spectrum disorders and cognitive impairments **Sample size:** N=114 **Setting:** U.S.	MI and control conditions did not influence session attendance (OR = 0.81; CI: 0-36-1.84), but attending at least one cognitive training session was associated with 46% higher chances of session completion in MI compared to the control condition (Risk Ratio = 1.46; CI: 1.25-1.69). Higher perceptions of cognitive impairment, higher scores on intelligence scale, and lower levels of emotional discomfort were	Lack of power analysis leading to a potentially underpowered sample to detect meaningful between-group differences	Level I High quality (A)

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
				associated with higher session attendance (AUC = 0.867; CI: 0.796-0.938). Changes in intrinsic motivation scores and number of sessions attended had a weak insignificant effect, but post-MI interview scores and session attendance had a statistically significant correlation (ρ = 0.28, *p* = .04). This indicates positive effects of MI on readiness for change pertinent to problem recognition, motivation, and self-efficacy.		
21	Goldstein et al. (2020)	Quantitative evidence based on an RCT	**Sample:** Patients aged 12-22, diagnosed	MI improved medication adherence by 1% every	Lack of allocation blinding could have	Level I Good quality (B)

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
			with BD, and enrolled to a medication management program **Sample size:** N=43 **Setting:** U.S.	month. The standard care group experienced a 5% decrease in adherence every month.	introduced measurement and performance biases The pilot RCT could have been underpowered to detect meaningful between-group differences	
22	Harmancı & Yıldız (2023).	Quantitative evidence based on a quasi-experimental design	**Sample:** Individuals diagnosed with BD and experiencing functional impairments caused by nonadherence **Sample size:** N=119 **Setting:** Turkey	Compared to standard care, MI + psychoeducation had statistically significant effect on adherence in the treatment group (F = 32.672, p = 0.001, Partial η^2 = 0.364), as well as social participation and perceived stigma.	Lack of a control group implies the likelihood of confounding	Level II High quality (A)
23	Gülcü & Kelleci (2022	Quantitative evidence based on an RCT	**Sample:** Individuals diagnosed with BD, recently discharge, and registered	The experimental group had statistically significant improvements in medication adherence	Risk of confounding from the SMS reminders included as an adjunct intervention	Level I High quality (A)

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
			with community mental health centers **Sample size:** N=92 **Setting:** Turkey	reported from baseline to three months (2.96±0.69 to 0.46±0.83), with the effects sustained at six-month follow-up (0.14±0.44) (*p* <0.001).	Inadequate blinding implies a high likelihood of Hawthorne effect, leading to misleading results (performance bias)	
24	Mohamed Eldaghar et al. (2021)	Quasi-experimental	**Sample:** Adults at rehabilitation or recovery stage **Sample size:** N=60 **Setting:** Egypt	Readiness to change had a statistically significant effect on medication adherence (*r* = 2.99, *p* = .018). MI had statistically significant effect on both readiness to change (*r* = .681, *p* <.01), and medication adherence (*r* = .592; *p* = <.01).	The study excluded patients with psychiatric disorders, limiting its generalizability to psychiatric settings	Level II Good quality (A)
25	Papus et al. (2023)	Systematic review	**Sample:** Adults with chronic diseases **Sample size:** 54 RCTs **Setting:** N/A	The effects varied according to provider characteristics (training and profession), exposure level (number and duration of	Inclusion of RCTs with small samples The reviewed studies had heterogeneous measurement methods, risk	Level I High quality (A)

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
				sessions), and mode of delivery (face-to-face vs. digital). MI was associated with improved adherence in 50% of the included studies and other clinical outcomes such as self-management in 35% of them.	of bias, and approaches to the delivery of MI, limiting the interpretation of the results	
26	Tahghighi et al. (2023)	Quantitative evidence based on an RCT	**Sample:** Persons aged ≥60 years with BD and experiencing an acute mania episode **Sample size:** N=64 **Setting:** Iran	Compared to standard care, MI had a statistically significant effect on adherence from baseline to post-MI (3.71±1.59 to 1.04±1.12, *P* <0.001), with the effects sustained at one- and two-month follow-ups (1.12±1.23, *P* < 0.001 and 1.15±1.17, *P* < 0.001).	Inadequate blinding of participants to treatment allocation may have introduced performance bias via Hawthorne effect	Level I Good quality (B)
27	Li et al. (2023)	Quantitative evidence based on a systematic	**Sample:** Persons diagnosed with	The intervention was associated with reduction	Positive beliefs and attitudes towards	Level I Good quality (B)

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
		review, with meta-analysis	schizophrenia **Sample size:** Five studies with a sample of N=726 **Setting:** N/A	in psychiatric symptoms (Z = 1.12, *p* = .03) but not attitudes towards adherence (Z = 1.95, *p* = .05) or behaviors (Z = 0.92, *p* = .36). The study found that a total intervention duration of ≥ 12 hours had a significant effect size on overall adherence behaviors (Z = 6.18, *p* < .00001) compared to intervention durations <12h (Z = 0.9, *p* = 0.36).	psychotropic medications among participants of the reviewed studies may have influenced adherence behaviors after MI	
28	Li et al. (2020)	RCT	**Sample:** Hospitalized patients with CHD with depression **Sample size:** N=110 **Setting:** China	The intervention had significant effects on stages of change, cognition, behavior, self-efficacy, perceived benefits, and perceived barriers. For	Single blinging, small sample size, and exclusion of patients with subclinical symptoms of the studies may have led to measurement and	Level I Good quality (B)

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
				the intervention group, the intervention was associated with statistically significant effects on decisional balance (perceived benefits), process of change, medication self-efficacy, and depressive scores ($p <$ .05). It illustrates the importance of adequately engaging patients during early stages of change to influence their readiness to change.	performance bias	
29	Dobber et al. (2020)	Qualitative and quantitative evidence based on a mixed-method design	**Sample:** The study focused on a population of adult patients with recent relapse of psychosis. **Sample size:** The sample included	The study identified empathy and trusting relationships as sufficient ingredients for in-depth conversations that can trigger mechanisms of	Risk of subjective bias associated with the limited measurability of client factors and mechanisms of change	Level III Good quality (B)

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
			n=14 patients **Setting:** Netherlands	change. Reflections and open questions focused on adherent behavior or intentions are the most essential conversational techniques for MI. The techniques were followed by "patient change talk" in 70% of the cases. Therapist behaviors such as "emphasis on control" and "affirmation" were followed by change talk in 6% of the cases.	The generalizability of the qualitative evidence is limited	
30	Frey et al. (2021)	Narrative review	**N/A**	The study highlights staff training, individualized feedback, ongoing support, supervision, and coaching as critical to enhancing clinician's	The proposed framework is based on evidence that is not systematically reviewed nor a meta-analysis conducted, limiting its applicability	Level III Good quality (B)

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
				competency and proficiency in MI skills. Training should focus on the technical and relational aspects of MI such as recognizing and attending to change and sustain talk, and understanding and reducing MI-inconsistent practices.	as a definitive statement of the magnitude of the evidence	

Table 3: Literature Review Matrix

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
1. Eshtehardi, S. S., Taylor, A. A., Chen, T. A., de Dios, M. A., Correa-Fernández, V., Kendzor, D. E., Businelle, M. S., & Reitzel, L. R. (2021). Sociodemographic determinants of nonadherence to depression and anxiety medication among individuals experiencing homelessness. *International journal of Environmental Research and Public Health*, *18*(15), 7958.	To examine the association between sociodemographic characteristics and depression/anxiety medication nonadherence in a subset of a diverse sample of homeless adults under active psychotropic prescription] [Describe self-reported barriers to depression	Quantitative	Cross-sectional descriptive design	The sample included adults aged ≥18 who were receiving services at shelters, with an active prescription of antidepressants. Convenience sampling within the practice setting	Investigator developed medication non-adherence self-reported questionnaire The instruments were not assessed for reliability or validity Data was collected at one time point	Employment (OR = 4.022; 95% CI: 1.244-13.044) and having insurance (OR = 2.923; CI: 1.225-6.973) were associated with high odds of medication nonadherence among individuals with depression. Among individuals with anxiety, employment was linked to higher odds	The cross-sectional design could not determine the cause-effect relationship between sociodemographic characteristics and medication nonadherence

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
	and anxiety medication nonadherence]					of nonadherence (OR = 3.573; CI: 1.160-11.010), while a comorbidity with depression (OR = 0.333; CI: 0.137-0.810) was associated with lower odds of nonadherence.	
2. Foley, L., Larkin, J., Lombard-Vance, R., Murphy, A. W., Hynes, L., Galvin, E., & Molloy, G. J. (2021). Prevalence and predictors of	Not explicitly stated [To describe medication nonadherence among people living with multimorbidit	Quantitative	Systematic review and meta-analysis	The selection of articles focused on individuals with two or more chronic conditions.	Data was assessed for quality using criteria for observational studies. Different	Nonadherence differed pertinent to measurement method, ranging from 44.1% to 76.5%. The	The failure to stratify the analysis by age limits the interpretation of the results across age groups

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
medication non-adherence among people living with multimorbidity: A systematic review and meta-analysis. *BMJ Open*, *11*(9), e044987	y according ti the current literature and synthesize predictors of nonadherence in this population]			The samples in the reviewed studies ranged from n=22 to n=599,141	instruments were used across the included studies	study reported a pooled prevalence of 42.6%, ranging from 7.0% to 83.5%. Psychiatric and physical health comorbidity affected nonadherence significantly, with evidence supporting higher levels of nonadherence to antidepressants among those with	The inclusion-exclusion criteria may have excluded relevant studies, leading to over- or under-estimation of the rates

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
						depression. Medication-related beliefs and more conditions influenced intentional nonadherence. Better relations with care teams, regular monitoring, and insight improved motivation for adherence.	
3. Gebeyehu, D. A., Mulat, H., Bekana, L., Asemamaw, N. T., Birarra, M. K., Takele, W. W., &		Quantitative	Non-experimental cross-sectional study	Stratified sampling was used to select participants from a	Medication attitude inventory (DAI) to assess medication	The study found an overall prevalence of 55.2% (CI: 46.9-60.2).	Risk of recall bias because of the cross-sectional nature of the study

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
Angaw, D. A. (2019). Psychotropic medication non-adherence among patients with severe mental disorder attending at Bahir Dar Felege Hiwote Referral hospital, north west Ethiopia, 2017. *BMC Research Notes*, *12*(1), 102.				population of persons diagnosed with schizophrenia, MDD, and BD having two or more follow-ups at a referral hospital N=377	nonadherence with established validity and reliability (Cronbach's α = 0.81) Oslo-3 Social Support Scale (OSS-3) (Cronbach's α = 0.687). Participants filled in the questionnaire and trained data collectors checked it for completeness and	Factors associated with high odds of nonadherence included age of 25-34 (OR = 3.04; CI: 1.27-7.29), twice-a-day prescription (OR = 4.60; CI: 2.25-9.43), poor insight (OR = 5.88; CI 2.08-16.59), and lack of social support (OR = 4.4; CI: 1.78-11.08). Binary logistic	

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
					consistency after coding	regression was used for analysis	
4. Malik, M., Kumari, S., & Manalai, P. (2020). Treatment nonadherence: An epidemic hidden in plain sight. *Psychiatric Times*, *37*(3), 25-26.	Not explicitly stated	Qualitative	Opinion of respected authorities	N/A	N/A	It identified perceived lack of control, therapeutic alliance with patients, stigma, and risk of dependence with non-adherence. The paper also outlined several interventions, including educational, behavioral, social, financial, and technological interventions	The paper is based on experiential evidence and minimal empirical evidence limiting its applicability in practice

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
						, as well as medication reconciliation and integrated care.	
5. Dou, L., Hu, L., Zhang, N., Cutler, H., Wang, Y., & Li, S. (2020). Factors associated with medication adherence among patients with severe mental disorders in China: A propensity score matching study. *Patient Preference and Adherence, 14*, 1329–1339.	To determine the factors that influence medication adherence among patients with psychiatric disorders	Quantitative	Retrospective cross-sectional design Individuals receiving medication assistance through a subsidy project were matched with those not receiving the	Convenience sampling was used to select participants receiving medication assistance and matching with those in standard care. N=686 participants enrolled to the national subsidy program were matched to	Medication nonadherence was measured using a single question that the phenomenon as "conceptualized as taking medication as prescribed, intermittently taking medication, or not at all	Participants receiving medication adherence had better adherence (92.6%) compared to the comparator group (61.2%). Lower levels of education and older age were linked to a high risk of nonadherence.	Retrospective design could introduce recall bias Confounding factors such as differences in prescribed drugs, social support, and patients' cognition could have led to confounding

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
			assistance (usual care)	n=1,292 under standard care	taking medication as prescribed”		

6. Semahegn, A., Torpey, K., Manu, A., Assefa, N., Tesfaye, G., & Ankomah, A. (2020). Psychotropic medication non-adherence and its associated factors among patients with major psychiatric disorders: a systematic review and meta-analysis. *Systematic Reviews*, *9*(1), 17.	To summarize the existing primary studies' finding to determine the pooled prevalence and factors associated with psychotropic medication nonadherence	Quantitative	Systematic review and meta-analysis	The selection of studies focused on studies reporting adherence among individuals with schizophrenia, MDD, and BD. A pooled sample of n=120,134 from 35 studies was used	Two authors abstracted and recorded the data into an extraction template. Raw data on medication nonadherence and sample size were extracted into an Excel sheet. Pooled prevalence was calculated using inverse variance method, with random effects models applied to determine the pooled estimates and sub-	The pooled prevalence of nonadherence was 49%, but differed across conditions: BD – 44%, MDD – 50%, and schizophrenia – 56%. Clinical-, treatment-, and illness-related factors such as comorbidity, medication side-effects, complexity of the regimen, poor insight were associated with high nonadherence rates. Personal factors, including,	Some of the included studies had weak methodologies, implying the possibility of bias

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
					group trends in the meta-analysis	perceived stigma, substance abuse, negative attitudes towards psychotropics, lower levels of education, and older age were also linked to nonadherence.	
7. Stewart, S. J. F., Moon, Z., & Horne, R. (2023). Medication nonadherence: Health impact, prevalence, correlates and interventions. *Psychology &*	To outline how adherence is defined, measured, and examine the impact, prevalence, and determinants	Qualitative	Literature review	N/A	N/A	The study characterized adherence as an outcome of ability and motivation. In turn, patient-, illness-, treatment-,	The descriptive nature of the study does not illustrate the cause-effect relationship between nonadherence

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
Health, *38*(6), 726-765.	of nonadherence					and system-related factors influence motivation and ability. The specific determinants include insight, age, comorbidity, complexity of the regimen, medication-related beliefs and attitudes, social support, and perceived stigma.	and the determinants
8. Gudeta, D. B., Leta, K., Alemu, B., & Kandula, U. R. (2023).	To assess medication adherence status and the	Quantitative	Descriptive cross-sectional design	The sample was selected through a simple	Modified Medication Adherence Rating	The study reported a prevalence of 62.3%.	The cross-sectional design cannot reveal the

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
Medication adherence and associated factors among psychiatry patients at Asella Referral and Teaching Hospital in Oromia, Ethiopia: Institution based cross sectional study. *PloS One, 18*(4), e0283829.	determinant factors among psychiatric patients			random technique focusing on the recruitment of individuals attending follow-up for medication management at a psychiatric unit in Ethiopia, with a confirmed diagnosis of a major psychiatric illness. N=395	Scale (MARS) (Cronbach α = 0.75 and reliability coefficient of 0.83). Participants completed the questionnaire in English or local language, with secondary fata drawn from patient.s' charts using a 7-item checklist	Nonadherence was associated poor insight (OR = 0.25; CI: 0.12-0.53), and negative medication-related beliefs (OR = 0.36; CI: 0.16-0.81). On the contrary, history of lifetime alcohol use (OR = 3.18; CI: 1.31-7.72) and perceived stigma (OR = 2.31; CI: 1.01-531) predicted	exact factors leading to nonadherence The use of secondary data could have led to skewed data considering that its accuracy was not verified

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
						better adherence. Bivariate analysis was used	
9. Zeleke, T. K., Birhane, W., Gubae, K., Kebede, B., & Abebe, R. B. (2023). Navigating the challenges: Predictors of non-adherence to psychotropic medications among patients with severe mental illnesses in Ethiopia. *Patient Preference and Adherence*, *17*, 2877–2890.	To evaluate the extent of nonadherence to psychotropic medication and its predictors in patients with severe mental illness	Quantitative	Correlational cross-sectional design	Stratified sampling was used to select a sample from severely ill mental patients receiving outpatient. N=407	Morisky Medication Adherence Rating Scale (MMAS) for medication nonadherence (Cronbach's α = .83). Participants filled the questionnaires with the help of the trained supervisors	The study reported a prevalence of 50.9%. Nonadherence was associated with medication use for >3 years (OR = 7.16; CI: 3.93-13.06), medication side effects (OR = 4.84; CI: 2.74-8.54), negative medication	Self-reported data may have led to over- or underestimation of rates due to recall bias

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
					and data collectors	attitudes (OR = 3.87 CI: 2.26-6.62), current substance use (OR = 2.48; CI: 1.44-4.27), irregular follow-up (OR = 2.36; CI: 1.24-4.47), and inadequate family support (OR = 2.07; CI: 1.19-3.58). Bivariable and multivariable logistic regressions were used for the analysis	

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
10. Konstantinou, P., Kassianos, A. P., Georgiou, G., Panayides, A., Papageorgiou, A., Almas, I., Wozniak, G., & Karekla, M. (2020). Barriers, facilitators, and interventions for medication adherence across chronic conditions with the highest non-adherence rates: A scoping review with recommendations for intervention development. *Translational Behavioral Medicine*, *10*(6), 1390–1398	To identify barriers and facilitators associated with medication adherence, and the behavioral health interventions and techniques among chronic conditions representing with high nonadherence rates	Qualitative	Scoping review	Unrestricted search of the literature N=243 studies analyzed	Descriptive information and summaries were created from the studies	The study identified young age, low income, low education levels, medication costs, medication side effects, comorbidities, negative medication beliefs, and poor patient-clinician relationships as the common barriers. Personalized face-to-face and digitally delivered interventions	Small sample of studies were explored

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
						such as psychoeducation, reinforcement and motivational reminder messages, and motivational interviewing have positive effects on adherence. Multicomponent interventions could address multiple barriers. Narrative synthesis of the data was conducted	

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
						using a mixed-methods framework	
11. Hsieh, W. L., Lee, S. K., Chien, W. T., Liu, W. I., Lai, C. Y., & Liu, C. Y. (2019). Mediating effect of the motivation for medication use on disease management and medication adherence among community-dwelling patients with schizophrenia. *Patient preference and adherence*, 1877-1887	To investigate the effect of motivation for medication use on disease management and medication adherence in schizophrenia	Quantitative	Cross-sectional descriptive design	Convenience sampling was to select participants aged 20-64 with a primary diagnosis of schizophrenia and prescribed at lest one antipsychotic medication. N=373	Medication Adherence Scale (MARS) (Cronbach α = 0.75 and reliability coefficient of 0.83). Participants filled the questionnaire, alongside other surveys assessing medication side effects, functioning, psychiatric	The study reported a nonadherence prevalence of 52.8%. Medication (non)adherence was weakly correlated with symptom severity, number of hospitalizations, medication side effects, therapeutic alliance, and social support.	The cross-sectional data cannot confirm the cause-effect relationship between MI and adherence

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
					symptoms, and insight.	Motivation for medication use had a partial but statistically significant mediating effect on the relationship between medication adherence and therapeutic alliance (50%), insight (41%), and medical social support (72%). Analysis involved *t*-	

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
						test and one way ANOVA for categorical variables and medication adherence, with Pearson's correlation analyzing the association between continuous adherence and continuous variables	
12. De Las Cuevas C. (2023). Psychiatric patients' perceived health control and reactance: Implications for medication adherence. *Patient*	To explore the possible relevance and interaction of perceived health control and psychological	Qualitative	Literature review	N/A	N/A	The findings link higher levels of psychological reactance and lower levels of perceived	The descriptive results provide only background information that cannot confirm the

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
Preference and Adherence, *17*, 1591–1601	reactance in the adherence of psychiatric patients to their treatment					health control to poor medication adherence. It observes the need to enhance perceived control and minimize psychological reactance through individualized support, empowerment, and shared decision-making.	relationship between the variables
13. Almansour, M., AlQurmalah, S. I., & Abdul Razack, H. I. (2023). Motivational interviewing-an	Discuss the recent literature on the application of MI in the six	Qualitative	Literature review	NA	NA	The article reports the positive effects of MI on motivation	The review does not assess for bias in the reported studies

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
evidence-based, collaborative, goal-oriented communication approach in lifestyle medicine: A comprehensive review of the literature. *Journal of Taibah University Medical Sciences*, *18*(5), 1170–1178	lifestyle medicine pillars					for medication use and amelioration of beliefs and attitudes that lead to nonadherence. It recommends using MI as an ongoing process founded on positive relationships.	
14. Anderson, L. J., Nuckols, T. K., Coles, C., Le, M. M., Schnipper, J. L., Shane, R., Jackevicius, C., Lee, J., Pevnick, J., and Members of the PHARM-DC Group. (2020). A	To systematically summarize evidence from systematic reviews examining interventions addressing medication	Qualitative	Systematic overview of systematic reviews	Selection of studies focused on SRs examining the benefits of different medication adherence interventions	The data from the studies was abstracted in a table	Interventions such as reminders, dose simplification, follow-up, monitoring, incentives, psychoeducation,	Underlying evidence in most of the reviews was of low or very low quality The focus on adults with physical

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
systematic overview of systematic reviews evaluating medication adherence interventions. *American Journal of Health-System Pharmacy, 77*(2), 138-147.	nonadherence and to discern differences in effectiveness by intervention, patient, and study characteristics			, limiting selection to adult patients prescribed medications for at least one condition		cognitive behavioral techniques, psychosocial interventions (social support), psychoeducation, and motivational strategies as crucial interventions for medication adherence.	health conditions may not reflect the reality in psychiatric settings
15. Baryakova, T. H., Pogostin, B. H., Langer, R., & McHugh, K. J. (2023). Overcoming barriers to patient adherence: The case for developing innovative drug	Review the fundamentals of drug delivery systems and the mechanisms by which they can improve adherence	Qualitative	Literature review	NA	NA	The study acknowledges the complexity and limitations of patient-centric empowerment and	Descriptive results that do not inform the understanding of the causal relationship between the intervention and outcome

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
delivery systems. *Nature Reviews. Drug discovery*, *22*(5), 387–409.						educational interventions . it proposes DDS as a potential approach to addressing determinants of nonadherence such as adverse effects and frequency of dosing.	
16. Barikani, A., Negarandeh, R., Moin, M., & Fazlollahi, M. R. (2021). The impact of motivational interview on self-efficacy, beliefs about medicines and medication adherence among	To determine the impact of MI on self-efficacy, beliefs about medicines, and medication adherence among	Quantitative	Randomized controlled trial (RCT)	Random selection of participants, focusing on adolescents with asthma	Medication Adherence Rating Scale (MARS) (Cronbach α = 0.75 and reliability coefficient of 0.83).	The intervention group has statistically higher mean scores across the three measures (p <. 05). The mean score differences	The intervention group has statistically higher mean scores across the three measures (p <. 05). The mean score differences

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adolescents with asthma: A randomized controlled trial. *Journal of Pediatric Nursing*, *60*, 116–122.	adolescents with asthma				Participants filled the qustionnaires	between the intervention and control group were statistically significant ($p < .05$) after adjusting the effect of pre-test scores.	between the intervention and control group were statistically significant ($p < .05$) after adjusting the effect of pre-test scores.
17. Bischof, G., Bischof, A., & Rumpf, H. J. (2021). Motivational interviewing: An evidence-based approach for use in medical practice. *Deutsches Arzteblatt International*, *118*(7), 109–115.	To determine the relevance of MI for patients with highly prevalence disorders	Quantitative	Systematic review and meta-analysis	A selective selection of publications focusing on MI and medication adherence, with a focus on existing systematic reviews and meta-analyses. A sample of 1,300 RCTs	Data was abstracted	MI was associated with higher odds of adopting health-relevant behaviors (OR = 1.55; CI: 1.40-1.71) compared to no treatment or standard practice. Notably, it	The study did not assess for the risk of bias. The analysis focused on different health-relevant behaviors, implying the odds ratios may not reflect the reality

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
				and 150 reviews was included in the pooled analysis		reports positive effects of MI on readiness for change (OR = 1.97; CI: 1.11-3.48), medication adherence (OR = 1.25; CI: 0.95-1.65), and overall treatment adherence (OR = 1.38; CI: 1.18-1.64). It recommends ongoing staff training on principles of MI.	regarding the effect of MI on medication nonadherence

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
						Standardized mean differences were used to calculate odds ratios and effect sizes	
18. Cahaya, N., Kristina, S. A., Widayanti, A. W., & Green, J. (2023). Motivational interviewing effect on medication adherence and other outcomes in people with schizophrenia (PwS): A review. *BIO Web of Conferences*, *75*, 05011.	To assess the effectiveness of MI in improving adherence to medications and other positive impacts on people with schizophrenia	Qualitative	Systematic review	The selection focused on studies involving adults 18-65 years with a confirmed diagnosis of schizophrenia Pooled sample of n=466 from 4 RCTs	Data from the SRs was abstracted, including question or aims, participants' characteristics, details of the interventions, and effects of MI on adherence	MI has positive effects on adherence but the outcomes may not be achieved with some populations. Factors such as the duration of each session, number of sessions completed, frequency of	The review involved a small sample of studies and descriptive reporting of the findings without deeper analysis limits the findings' generalization across settings

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
						interviews, patient-clinician interactions, clinician training and MI skills, and work-related pressures influence the achievement of the expected outcomes. Establishing trust-based therapeutic alliance with patients, aligning MI strategies with patients' values and goals, and	

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
						clinicians' ability to use MI skills positively influence the effect of MI on adherence.	
19. Ertem, M. Y., & Duman, Z. Ç. (2019). The effect of motivational interviews on treatment adherence and insight levels of patients with schizophrenia: A randomized controlled study. *Perspectives in Psychiatric Care*, *55*(1), 75–86.	To examine the effect of MI on treatment adherence and insight of patients diagnosed with schizophrenia	Quantitative	RCT	Purposive technique focused on adults 18-65 and diagnosed with schizophrenia was used for participant recruitment, with random sampling applied in treatment allocation (1:1).	Turkish version of the Morisky Medication Adherence Scale (MMAS) (Cronbach's α = 0.57). Schedule for assessing the three components of Insight (SATCI)	MI was associated with statistically significant improvements in insight from baseline to six-month post-intervention follow-up (p <.001) in the intervention group but not the control group.	Small sample size may be underpowered to support the detection of meaningful between-group differences Self-reported data is prone to recall bias

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
				N=40	(Cronbach's α = 0.86)	Between-group analysis of "disease awareness" subscale revealed statistically significant differences at post-MI (p = 0.037), 3-moth follow-up (p = 0.004), and 6-month follow-up (p = 0.005). Similarly, differences in "correct recognition of psychotic experiences" subscale were	

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						statistically significant at post-MI (p = 0.03), 3-moth follow-up (p = 0.013), and 6-month follow-up (p = 0.004). Effect on medication adherence between the groups was also statistically significant at post-MI (p = 0.001), 3-moth follow-up (p < 0.001), and 6-month follow-up (p < 0.001).	

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
20. Fiszdon, J. M., Choi, J., Wang, K., Parente, L. T., Hallinan, S., Burton, E., ... & Martino, S. (2022). Motivational interviewing to enhance psychosocial treatment attendance in people with SMI. *Schizophrenia Research*, *246*, 165-171.	To assess the efficacy of MI in improving attendance to a full-course cognitive training, examining motivational level as a mechanism of action, and identifying variables linked to initial engagement in training	Quantitative	RCT	Purposive sampling was used to recruit adult outpatients with a confirmed diagnosis of psychotic spectrum disorder and cognitive impairment, with random sampling used for participant allocation to treatment. N=114	Intrinsic Motivation Inventory for Schizophrenia Research (IMI-SR) to assess task-specific motivation (Cronbach's alpha α = 0.92) Self-report analogue scale (0-100) to assess readiness for change Self-reported data was collected	MI and control conditions did not influence session attendance (OR = 0.81; CI: 0-36-1.84), but attending at least one cognitive training session was associated with 46% higher chances of session completion in MI compared to the control condition (Risk Ratio =	Lack of power analysis leading to a potentially underpowered sample to detect meaningful between-group differences The sample of individuals with cognitive impairments may have different characteristics from a conventional psychiatric sample, limiting the

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					from the participants at study baseline and endpoint, with other surveys relevant to assessing psychiatric symptoms, pre-morbidity, intelligence, and clinical functioning applied at baseline.	1.46; CI: 1.25-1.69). Higher perceptions of cognitive impairment, higher scores on intelligence scale, and lower levels of emotional discomfort were associated with higher session attendance (AUC = 0.867; CI: 0.796-0.938). Changes in intrinsic motivation scores and number of	generalizability of the findings

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						sessions attended had a weak insignificant effect, but post-MI interview scores and session attendance had a statistically significant correlation ($\rho = 0.28$, $p = .04$). This indicates positive effects of MI on readiness for change pertinent to problem recognition, motivation,	

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						and self-efficacy. Logistic regression using mixed models to compare MI vs control on intrinsic motivation, Wilcoxon rank-sum test to compare efficacy of MI and control condition, Poisson regression to assess to MI and treatment attendance, and univariate	

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
						and multivariate regression to analyze association between baseline characteristics and session non-attendance.	
21. Goldstein, T. R., Krantz, M. L., Fersch-Podrat, R. K., Hotkowski, N. J., Merranko, J., Sobel, L., Axelson, D., Birmaher, B., & Douaihy, A. (2020). A brief motivational intervention for enhancing medication adherence for adolescents with	To assess the effects of a brief MI intervention on adherence in adolescents with bipolar disorder and chronic conditions	Quantitative	RCT	Purposive sampling was used to select participants from a Child and Adolescent Bipolar Services (CABS) specialty clinic, focusing on	MedTracker to assess objective adherence Standardized self- and parent-reports, and Physician's Visit Form to assess subjective adherence	MI improved medication adherence by 1% every month. The standard care group experienced a 5% decrease in adherence every month.	Lack of allocation blinding could have introduced measurement and performance biases The pilot RCT was underpowered to detect meaningful

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bipolar disorder: A pilot randomized trial. *Journal of Affective Disorders*, 265, 1–9				individuals aged 12-22.	Participants filled in the relevant questionnaires at baseline to assess subjective adherence, the MedTracker recording medication use and sending timestamp data to the clinicians to represent pill-taking events		between-group differences The single-center RCT involved adolescents, implying that the results may not be generalizable to other populations or psychiatric settings
22. Harmancı, P., & Yıldız, E. (2023). The effects of psychoeducation and motivational	To determine the effects of MI combined with psychoeducati	Quantitative	Quasi-experimental pretest-post-test design	Convenience sampling was used to select patients with	MARS to assess medication adherence ((Cronbach	Compared to standard care, MI + psychoeducation had	Lack of a control group implies the likelihood of confounding

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
interviewing on treatment adherence and functionality in individuals with bipolar disorder. *Archives of Psychiatric Nursing*, *45*, 89–100.	on on treatment adherence and functionality among individual with BD			BD and experiencing functional impairments due to nonadherence. N=119 ((n=32 in MI, n=31 in psychoeducation, and n=56 in standard care)	α = 0.75 and reliability coefficient of 0.83). Participants filled the data collection instruments at study baseline and endpoint	statistically significant effect on adherence in the treatment group (F = 32.672, p = 0.001, Partial η^2 = 0.364), as well as social participation and perceived stigma. Analysis involved *t*-tests	from factors such as age, gender, and social support
23. Gülcü, Z. G., & Kelleci, M. (2022). The effect of motivational interviewing and telepsychiatric follow-up on	To determine the effect of an individualized motivational interviewing-based	Quantitative	RCT	Convenience sampling was used to select participants discharged from a public	Turkish versions of the Morisky Medication Adherence Scale (MMAS-8)	The experimental group had statistically significant improvements in	Inadequate blinding implies a high likelihood of Hawthorne effect, leading to misleading

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medication adherence of patients with bipolar disorder: A randomized controlled trial. *Journal of Psychiatric Nursing*, *13*(2), 101	program to improve medication adherence with a telepsychiatric complement			hospital and registered with a community mental health center, with simple random sampling used for treatment allocation. N=92	(Cronbach's α = 0.72) Medication Adherence Rating Scale (MARS) (Cronbach's α = 0.83) Participants meeting the inclusion criteria self-reported their medication adherence at baseline, study endpoint (3 months), and follow-up (6 months)	medication adherence reported from baseline to three months (2.96±0.69 to 0.46±0.83), with the effects sustained at six-month follow-up (0.14±0.44) (p <0.001). Statistical analysis was conducted using the Friedman test, the Wilcoxon test, the Mann-Whitney *U*	results (performance bias). Risk of confounding from the SMS reminders included as an adjunct intervention

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						test, chi-squared test, and correlation analysis	
24. Mohamed Eldaghar, E., Hassan Abdel Aal, M., Hossny Shalaby, M., & Mohamed Barakat, M. (2021). Effect of Motivational Interviewing Training Program on Compliance among Patients with Substance Use Disorders. *Journal of Nursing Science Benha University*, *2*(2), 618-634.	To evaluate the effect of MI training program on compliance among patients with substance use disorders	Quantitative	Quasi-experimental pretest-posttest design	Convenience sampling was used to select willing adults aged ≥18 receiving services from a psychiatric mental health hospital and at the rehabilitation or recovery stage of SUDs N=60 (n=30 allocated to MI and n=30 being an	Readiness of change scale (Cronbach α = 0.670 Medication adherence and treatment scale (Cronbach α = 0.675) Role of Motivational Interviews Scale (Cronbach's α = 0.752)	Readiness to change had a statistically significant effect on medication adherence (r = 2.99, p = .018). MI had statistically significant effect on both readiness to change (r = .681, p <.01), and medication adherence (r	The inclusion of patients with SUDs only limits the generalizability to patients with psychiatric disorders. The use of a male-only sample may limits the generalizability of the findings to a gender diverse population

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				active control group)	Data was collected at baseline and post-test data collected after five months for both groups concurrently	= .592; *p* = <.01). Categorical variables were analyzed using independent samples *t*-test and ANOVA, with Pearson's correlation comparing the relationship between MI and adherence	
25. Papus, M., Dima, A. L., Viprey, M., Schott, A. M., Schneider, M. P., & Novais, T. (2022).	To systematically review published randomized	Qualitative	Systematic review	The selection criteria focused on RCTs comparing	Data was abstracted from the studies into tables and	The effects varied according to provider characteristic	Inclusion of RCTs with small samples that may have

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
Motivational interviewing to support medication adherence in adults with chronic conditions: systematic review of randomized controlled trials. *Patient Education and Counseling*, *105*(11), 3186-3203.	controlled trials assessing the efficacy of MI to support medication adherence in adults with chronic condition			MI and usual care or other interventions on medication adherence as the outcome of interest 54 RCTs were reviewed	clinical outcomes including adherence summarized for different chronic diseases.	s (training and profession), exposure level (number and duration of sessions), and mode of delivery (face-to-face vs. digital). MI was associated with improved adherence in 50% of the included studies and other clinical outcomes such as self-management in 35% of them.	led to biased reporting The reviewed studies had heterogeneous measurement methods, risk of bias, and approaches to the delivery of MI, limiting the interpretation of the results

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26. Tahghighi, H., Mortazavi, H., Manteghi, A. A., & Armat, M. R. (2023). The effect of comprehensive individual motivational-educational program on medication adherence in elderly patients with bipolar disorders: An experimental study. *Journal of Education and Health Promotion*, 12, 70.	To determine the effect of a comprehensive individual motivation-educational program on medication adherence in elderly patients with bipolar disorder	Quantitative	RCT	Purposive sampling was used to recruit hospitalized aged ≥60 years with BD and experiencing an acute mania episode	Medication adherence was measured using MMAS-8 (Cronbach's α = 0.91) The participants or their caregivers filled the questionnaires at baseline and post-intervention, one-month post-test, and two months post-test.	Compared to standard care, MI had a statistically significant effect on adherence from baseline to post-MI (3.71±1.59 to 1.04±1.12, *P* <0.001), with the effects sustained at one- and two-month follow-ups (1.12±1.23, *P* < 0.001 and 1.15±1.17, *P* < 0.001).	Inadequate blinding of participants to treatment allocation may have introduced performance bias via Hawthorne effect
27. Li, I. H., Hsieh, W. L., & Liu, W. I.	To systematically	Quantitative	Systematic review	The selection focused on	Data was abstracted	The intervention	Positive beliefs and

Article #, Author Date, Title, Journal	Research Question	Type of Study	Design	Sample, Sample Size, and How Selected	Instruments Used, Reliability & Validity, Data Collection Methods	Results, including statistical analysis Consistent with other Literature	Limitations
(2023). A systematic review and meta-analysis of the effectiveness of adherence therapy and its treatment duration in patients with schizophrenia spectrum disorders. *Patient preference and adherence*, 769-780.	examine the effectiveness of adherence therapy in improving outcomes medication adherence versus treatment as usual, and the minimum effective duration for people diagnosed with schizophrenia spectrum disorders		and meta-analysis	studies investigating the intervention among individuals aged ≥18 diagnosed with schizophrenia. Five studies with a pooled sample of N=726 was analyzed	into tables and appraised for quality	was associated with reduction in psychiatric symptoms (Z = 1.12, *p* = .03) but not attitudes towards adherence (Z = 1.95, *p* = .05) or behaviors (Z = 0.92, *p* = .36). The study found that a total intervention duration of ≥ 12 hours had a significant effect size on overall adherence behaviors (Z	attitudes towards psychotropic medications among participants of the reviewed studies may have influenced adherence behaviors after MI

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						= 6.18, p < .00001) compared to intervention durations <12h (Z = 0.9, p = 0.36). Standardized mean differences were used to calculate effect sizes	
28. Li, X., Yang, S., Wang, Y., Yang, B., & Zhang, J. (2020). Effects of a transtheoretical model-based intervention and motivational interviewing on the management of depression in	To determine the effects of transtheoretical model-based intervention and MI on the management of depression in hospitalized	Quantitative	RCT	Convenience sampling was used to select patients hospitalized for CHD with depression. N=110	Hamilton Rating Scale for Depression (HRSD) (Cronbach's α = 0.819) Depression Prevention &	The intervention had significant effects on stages of change, cognition, behavior, self-efficacy, perceived	Single blinding, small sample size, and exclusion of patients with subclinical symptoms of the studies may have led to

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hospitalized patients with coronary heart disease: a randomized controlled trial. *BMC Public Health*, *20*, 1-12.	patients with CHD				Management Survey (DPMS) (Cronbach's α = 0.988) Participants filled the questionnaires at the two study timepoints.	benefits, and perceived barriers. For the intervention group, the intervention was associated with statistically significant effects on decisional balance (perceived benefits), process of change, medication self-efficacy, and depressive scores ($p <$ .05). It illustrates the	measurement and performance bias

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						importance of adequately engaging patients during early stages of change to influence their readiness to change. Chi-squared test was used to compare between-group differences across timepoints, while ANOVA was used to compare the effect of the intervention	

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						on different dimensions of DPMS subscales	
29. Dobber, J., Latour, C., van Meijel, B., Ter Riet, G., Barkhof, E., Peters, R., Scholte Op Reimer, W., & de Haan, L. (2020). Active ingredients and mechanisms of change in motivational interviewing for medication adherence. A mixed methods study of patient-therapist interaction in patients with schizophrenia. *Frontiers in Psychiatry, 11*, 78.		Mixed-methods	Mixed-methods design	Purposive sampling was used to recruit participants from a population of adult patients with recent relapse of psychosis. N=14	Three audiotaped sessions for participants meeting the criteria were transcribed and audited using the Motivational Interviewing Skill Code 2.1 (MISC 2.1) and the Motivational Interviewing Sequential Code for Observing Process	The study identified empathy and trusting relationships as sufficient ingredients for in-depth conversations that can trigger mechanisms of change. Reflections and open questions focused on adherent behavior or intentions are the most essential	Risk of subjective bias associated with the limited measurability of client factors and mechanisms of change The generalizability of the qualitative evidence is limited

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					Exchanges (SCOPE)	conversational techniques for MI. The techniques were followed by "patient change talk" in 70% of the cases. Therapist behaviors such as "emphasis on control" and "affirmation" were followed by change talk in 6% of the cases. Thematic analysis was used to analyze the	

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						qualitative data, while Generalized Sequential analysis to predict the probabilities of MI statements	
30. Frey, A. J., Lee, J., Small, J. W., Sibley, M., Owens, J. S., Skidmore, B., ... & Moyers, T. B. (2021). Mechanisms of motivational interviewing: A conceptual framework to guide practice and research. *Prevention Science*, *22*, 689-700.	To develop a conceptual framework for mechanisms of motivational interviewing based on previous studies	Qualitative	Narrative review	N/A	N/A	The study highlights staff training, individualized feedback, ongoing support, supervision, and coaching as critical to enhancing clinician's competency and proficiency in MI skills. Training	The proposed framework is based on evidence that is not systematically reviewed nor a meta-analysis conducted, limiting its applicability as a definitive statement of the magnitude of the evidence

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						should focus on the technical and relational aspects of MI such as recognizing and attending to change and sustain talk, and understanding and reducing MI-inconsistent practices.	

Tables

Levels of Evidence (insert table from NU726/727 courses)

Table of the Levels of Evidence

Level of Evidence	Description	Articles
Level I	Experimental study, randomized controlled trial (RCT), systematic review of RCT's, with or without meta-analysis	1
Level II	Quasi-experimental study, systematic review of a combination of RCTs and quasi-experimental, or quasi-experimental studies only, with or without meta-analysis	10
Level III	Non-experimental study, systematic review of a combination of RCTs, quasi-experimental and non-experimental studies only, with or without meta-analysis. Qualitative study or systematic review with or without a meta-synthesis	8
Level IV	Opinion of respected authorities and/or nationally recognized expert committees/consensus panels based on scientific evidence Includes: Clinical practice guidelines Consensus panels	7
Level V	Based on experiential and non-research evidence Includes: Literature reviews, quality improvement, program or financial evaluation, case reports,	1

	opinion of nationally recognized experts(s) based on experiential evidence	

Variables	Conceptual Definition	Operational Definition	Level of Measurement
Depression (variable)	"Persistent feeling of sadness and associated symptoms such as: decreased interest or pleasure, worthlessness, weight changes, sleep problems, impairment in thinking, and recurrent suicidal thoughts or attempt." *DSM-5, Diagnostic and statistical manual of mental disorders.* pp. 160-161.	Hamilton Rating Scale for Depression (21-items) This scale is in the public domain.	Ordinal

Figures