# MINDFULNESS PRACTICE TO IMPROVE TREATMENT OUTCOMES FOR INDIVIDUALS WITH ATTENTION-DEFICIT HYPERACTIVITY DISORDER (ADHD): A QUALITY IMPROVEMENT PROJECT IN AN INTENSIVE OUTPATIENT TREATMENT PROGRAM

by

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# DEDICATION

This project is dedicated to my daughters. They are the reason I started this journey and were the driving force for my completion.

# ACKNOWLEDGEMENTS

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# ABSTRACT

Attention Deficit Hyperactivity Disorder (ADHD) is a neurodevelopmental disorder characterized by inattention, hyperactivity, and impulsivity. While medications are a primary treatment, mindfulness-based interventions have shown effectiveness in improving attention, executive function, and emotional regulation. Despite its integration into cognitive behavioral therapy (CBT) and dialectical behavior therapy (DBT), structured mindfulness implementation in outpatient programs remains inconsistent.

An assessment of an intensive outpatient mental health program in the Pacific Northwest found that only 5-10 minutes of each four-hour therapy session was dedicated to mindfulness. This limited exposure may reduce the effectiveness of CBT and DBT, particularly for individuals with ADHD. Additionally, the program lacked standardized mindfulness education during orientation, potentially impacting patient engagement and treatment outcomes.

This quality improvement project introduced a structured mindfulness training program. At orientation, patients received a standardized mindfulness education video, completed pre- and post-assessments on mindfulness awareness, and engaged in biweekly follow-up sessions. Primary outcomes included mindfulness practice outside therapy, changes in mindfulness attitudes, and ADHD patient program completion rates.

A UCLA Mindfulness Education Center training video was incorporated at orientation to provide foundational mindfulness instruction. Mindfulness practice was reinforced through structured follow-ups during individual therapy sessions. Data collection focused on patient engagement, self-reported mindfulness use, and program completion rates.

All newly enrolled patients (100%) received standardized mindfulness instruction. Mindfulness practice outside therapy increased from 0% to 100%, surpassing the goal of 30%. However, due to the limited data collection period and rolling admissions, the impact on ADHD patient completion rates could not be fully assessed. No significant change in mindfulness attitudes was observed, as the sole participant had prior mindfulness knowledge.

Integrating standardized mindfulness education was feasible and well-received, leading program staff to expand mindfulness practice during therapy sessions. Future research should explore larger sample sizes, longer evaluation periods, and targeted ADHD screening to assess the long-term impact of mindfulness on treatment outcomes.

# CHAPTER ONE

# REVIEW OF THE LITERATURE

## Introduction

Attention deficit hyperactivity disorder (ADHD), a neurodevelopmental disorder with symptoms beginning in childhood, affects 2.5% of the general American population and 18% of the psychiatric outpatient clinic population (Adamis et al., 2022; Gerhand & Saville, 2022). Despite this information, many individuals in psychiatric outpatient clinics never receive treatment for ADHD diagnosis, which impacts treatment outcomes (Adamis et al., 2022; Arellano-Virto et al., 2021). Missed opportunities to treat ADHD in the psychiatric population happen because most providers, both mental health and general practice, lack awareness that ADHD occurs in adults and confidence in their ability to distinguish the symptoms of ADHD from those of anxiety, mood disorders, personality disorders or substance abuse disorders (Choi et al., 2022; Lovett & Harrison, 2021). Treatment options include medications and therapy; they are best used together, but often, only medications are offered (French et al., 2024). As a result, many individuals with ADHD in psychiatric outpatient clinics receive suboptimal treatment for their symptoms (Gerhand & Saville, 2022; Janssen et al., 2020).

## Background

ADHD is defined by the primary (inattention, hyperactivity, impulsiveness) and secondary (deficits of executive functions and emotional dysregulation) symptoms that impair the functional capacity of an individual in multiple settings (Monteiro et al., 2024). Once considered a disorder of childhood, research has now determined that in 70-80% of childhood

ADHD cases, symptoms continue to cause functional impairment well into adulthood (Olagunju & Faraz, 2024). The functional impairments of ADHD, such as deficits in executive functions (i.e., selective attention, attentional inhibition, working memory, behavioral inhibition, initiation, ability to shift between tasks, emotional control, self-monitoring, planning/organization, task monitoring, and organization of materials) contribute to a decreased quality of life (Adamis et al., 2022; Bhagyesh & Anupama, 2023; Johnson et al., 2020). The greater the severity of ADHD symptoms, executive function deficits, and difficulty with emotional regulation, the worse the functional outcomes (Choi et al., 2022). The decreased functional outcomes result in the annual financial burden of ADHD costing between $831.38 and $20,538 per person and between $356 million and $20.27 billion nationally (Chhibber et al., 2021). When ADHD remains untreated, it affects an individual's quality of life and their family and communities (Johnson et al., 2020; Olagunju & Faraz, 2024).

Treatment must occur to decrease the impact of ADHD on an individual. Untreated ADHD leads to struggles with mental, physical, and social functioning (Champ et al., 2021). Individuals with ADHD have a higher incidence of mental health disorders, chronic physical illness, difficulties with relationships, and an increased risk of involvement with the legal system (French et al., 2024). For this reason, a literature review was conducted to identify best practices in comprehensive ADHD treatment and determine the best way to address the primary and secondary symptoms of ADHD.

# A Review of Literature

## Methods

Because the complexity of ADHD complicates the provision of care, a scoping review was conducted to determine how to best treat both the primary (inattention, hyperactivity, and impulsivity) and secondary (executive function and emotional dysregulation) symptoms of ADHD. To identify appropriate articles for this scoping review, a systematic search was conducted of the CINAHL, ProQuest, PsycINFO, PubMed, Google Scholar, and Web of Science databases using combinations of the key terms: ADHD, attention deficit hyperactivity disorder, treatment, executive function, and mindfulness. Articles were written in English and published in peer review journals between 2019 and 2024. Additional inclusion criteria were an adult population and a full article with an abstract available for review. Excluded articles sought to discuss dietary interventions, only referenced children or adolescent populations and did not include ADHD as a disorder. The eighteen articles selected for full review had titles with adults and ADHD and aimed to discuss pharmacologic and psychotherapy treatment options.

## Results

The research consensus notes the efficacy of both pharmacological and psychotherapeutic treatment for ADHD. A combination of pharmacology and psychotherapy provides the most benefit. Pharmacologic interventions are the first-line treatments, but psychotherapeutic interventions, particularly mindfulness, have equal effectiveness.

Pharmaceutical

Treatment recommendations consistently include pharmaceutical interventions for ADHD, including both stimulant and non-stimulant medications. (Janssen et al., 2020). Stimulant and non-stimulant medications each have advantages and disadvantages, ranging from duration of symptom control to common side effects. Pharmaceutical interventions work best to help control most of the core inattention, hyperactivity, and impulsivity symptoms of ADHD but often do not help with executive function or emotional regulation struggles (Bhagyesh & Anupama, 2023; Fullen et al., 2020; Gerhand & Saville, 2022; Johnson et al., 2020; Koyuncu et al., 2022; Monteiro et al., 2024; Olagunju & Faraz, 2024).

Stimulant medication

Stimulant medications such as methylphenidate or mixed amphetamine salts remain first-line treatment recommendations and can provide almost instant relief of the core symptoms of ADHD (Bhagyesh & Anupama, 2023; French et al., 2024; Koyuncu et al., 2022; Monteiro et al., 2024). Unlike medications for other mental health disorders, medication for ADHD works within minutes in 70% of patients (Fullen et al., 2020; Olagunju & Faraz, 2024). The duration of symptom control depends on the formulation of the medication and can last from 2 to 14 hours, which is adequate for some, while others benefit from more continuous symptom relief (Olagunju & Faraz, 2024, 2024). In addition to the fluctuation in symptom control, side effects of stimulant medication can be difficult to tolerate. The most common side effects include changes in appetite, insomnia, increased blood pressure, and anxiety (Monteiro et al., 2024; Olagunju & Faraz, 2024). In contrast, anxiety and depression can decrease as stimulant medications resolve primary ADHD symptoms (Koyuncu et al., 2022). Stimulant medications are controlled substances; there is a concern for misuse and diversion and as a result can be a barrier to care. Though more often, treatment with stimulants results in a decreased risk for substance use disorders (Carolan, 2022; French et al., 2024; Monteiro et al., 2024; Olagunju & Faraz, 2024).

Non-stimulant medication

When stimulant medications are not appropriate, and the desire for pharmaceutical interventions remains, a non-stimulant medication, such as Atomoxetine, Guanfacine, or Clonidine, can be used (Bhagyesh & Anupama, 2023; Olagunju & Faraz, 2024)These medications take longer to control symptoms but provide 24-hour symptom management. The side effects of non-stimulants include decreased appetite, insomnia, drowsiness, and anxiety. Non-stimulant medications are similar in effectiveness to stimulant medications, and symptom resolution continues only as long as the medication is taken. (Elliott et al., 2020; Isfandnia et al., 2024).

Non-pharmaceutical

Psychotherapy effectively fills the gap in care when pharmacologic treatments are not appropriate, such as when patients refuse medication, struggle with consistent medication administration, or medication lack effectiveness (Champ et al., 2021; Chen et al., 2022; Fullen et al., 2020). Cognitive behavior therapy (CBT), Dialectical behavior therapy (DBT) and Mindfulness significantly improve both executive function and emotional regulation difficulties, and their effects last long after treatment ends (Champ et al., 2021; Chen et al., 2022; Fullen et al., 2020; Halmøy et al., 2022; Janssen et al., 2020; Liu et al., 2023; Strålin et al., 2022; Strauss et al., 2023; Sverre et al., 2023; Wojcik & Blassingame, 2024). Symptom resolution equals medication, and the effects last as long as the learned skills are used, without a possibility of developing a tolerance or decrease in treatment effectiveness (Halmøy et al., 2022; Harper & Gentile, 2022; Liu et al., 2023; Strålin et al., 2022). While CBT and DBT have subtle variations, each relies heavily on mindfulness to develop an individual's awareness of their surroundings and tolerance of discomfort to improve mental health treatment outcomes (Shapero et al., 2018; Verhaeghen, 2021)

Cognitive behavior therapy (CBT)

CBT is considered the primary psychotherapeutic intervention for all mental health disorders, including ADHD (Champ et al., 2021; Chen et al., 2022). The premise of CBT is that thoughts, feelings, and behaviors are all intertwined and impact how one sees and interacts with the world around them ("In Brief," 2022). Formal CBT therapy has a structured treatment plan that lasts for 6-10 sessions where the therapist and individual work to change negative thought patterns and learn new behaviors to manage stressful life situations better (Champ et al., 2021; Fullen et al., 2020; Liu et al., 2023) For best outcomes, the individual must have an awareness of how their thoughts, feelings, and behaviors intertwine, which can be difficult for those with ADHD. In turn, the structure and set goals of this type of therapy work well to address primary attention and secondary symptoms and improve executive function deficits and emotional regulation for patients with ADHD (Fullen et al., 2020; Johnson et al., 2020; Koyuncu et al., 2022). Because treatment changes thoughts and behaviors, the effects continue long after treatment ends.

Dialectical behavior therapy (DBT)

DBT, a subset of CBT created by Marsha Linehan to treat the intense emotional dysregulation of individuals with borderline personality disorder, aims to change how an individual relates to their thoughts and feelings instead of changing their thoughts or feelings (Champ et al., 2021). Dialectical thinking allows two contrasting feelings to co-occur, such as acceptance and change. The skills taught in DBT revolve around mindfulness, distress tolerance, emotional regulation, and interpersonal effectiveness. Research has found these skills effective in other mental health disorders. Formal DBT treatment lasts 9-12 months; the first week is spent on orientation, and the next 4-6 weeks concentrate on learning the foundational mindfulness skills needed to move through the other three sections (Schmidt et al., 2024)During treatment, specific “What” (observing, describing, and participating) and “How” (nonjudgmental, one-mindful, and effective) skills are taught to improve executive functions, distress tolerance, and emotional regulation. (Halmøy et al., 2022; Schmidt et al., 2024; Shapero et al., 2018) . As with cognitive behavior therapy, dialectical behavior therapy also results in sustained improvement of both primary and secondary ADHD symptoms.  (Champ et al., 2021, 2021; Fullen et al., 2020; Halmøy et al., 2022).

Mindfulness

Both CBT and DBT rely heavily on the patient’s ability to be mindful of their thoughts, feelings, and actions. (Champ et al., 2021; Chen et al., 2022; Fullen et al., 2020; Halmøy et al., 2022). Mindfulness is the ability to pay attention on purpose to the present moment without judgment; this can be a formal meditation practice or used in daily activities (Shapero et al., 2018).  Mindfulness practice cultivates an individual’s ability to self-regulate attention and tolerate distress. Mindfulness is both an independent practice and a core component of both CBT and DBT, it helps improve inattention, executive functions, and emotional regulation regardless of mental health (Champ et al., 2021; Chen et al., 2022; Fullen et al., 2020; Janssen et al., 2020; Liu et al., 2023; Olagunju & Faraz, 2024; Strålin et al., 2022; Strauss et al., 2023; Sverre et al., 2023). Those with ADHD significantly benefit from mindfulness, as the core symptoms of ADHD make engagement in treatment difficult, and mindfulness practice has been repeatedly shown to improve attentional difficulties experienced with ADHD (Champ et al., 2021; Johnson et al., 2020). Learning mindfulness takes time and effort; formal mindfulness instruction such as Mindfulness-Based Stress Reduction (MBSR) or Mindfulness-Based Cognitive Therapy (MBCT) requires 2-3 hours of sessions a week for 8-12 weeks with at least 30 minutes of home practice per day (Janssen et al., 2020; Strålin et al., 2022). As a learned skill, mindfulness must be practiced regularly for the best outcomes (Janssen et al., 2020; Strålin et al., 2022).

## Conclusion

Medications and psychotherapy efficiently treat ADHD and can be used as individual treatments or combined for better results (Monteiro et al., 2024). Medications remain the first line recommendation for the treatment of ADHD, both stimulant and non-stimulant (Bhagyesh & Anupama, 2023; Fullen et al., 2020; Gerhand & Saville, 2022; Johnson et al., 2020; Koyuncu et al., 2022; Monteiro et al., 2024; Olagunju & Faraz, 2024). Medications have the advantage of working quickly. Despite this advantage, treatment works mainly on primary symptoms of ADHD, not on secondary and does not last once medications wear off (Bhagyesh & Anupama, 2023; French et al., 2024; Koyuncu et al., 2022; Monteiro et al., 2024).

Psychotherapy, including CBT, DBT, and mindfulness, all take time to see maximum improvements, but the improvements occur in both primary and secondary symptoms and last even after treatment completion (Champ et al., 2021; Chen et al., 2022; Fullen et al., 2020; Halmøy et al., 2022; Janssen et al., 2020; Liu et al., 2023; Strålin et al., 2022). Mindfulness shows the most promise in treating ADHD (without medications) as both a standalone practice and when CBT or DBT is used. In addition, mindfulness can improve primary and secondary symptoms, executive function deficits, and emotional dysregulation common in not only ADHD but the many other mental health disorders that co-occur and mimic ADHD (Fullen et al., 2020; Halmøy et al., 2022; Janssen et al., 2020). A key consideration for mindfulness is the time and training needed for maximum benefits (Janssen et al., 2020; Strålin et al., 2022)The time and training required indicate that individuals new to mindfulness would benefit most from dedicated instruction early in CBT or DBT-based treatment programs.

# CHAPTER TWO

# QUALITY IMPROVEMENT PROPOSAL

## Introduction

Nine hundred and seventy million people worldwide struggle with mental health concerns (*Mental Disorders*, n.d.). Three hundred and sixty-six million of those who struggle with mental health concerns are adults with ADHD (Song et al., n.d.). ADHD nationally costs between $356 million and $20.27 billion annually (Chhibber et al., 2021). ADHD shares many of the same symptoms as anxiety, depression, bipolar disorder, and borderline personality disorder and, as a result, often goes overlooked as a possible diagnosis when an adult suffers from executive function deficits, inattention, or emotional dysregulation (Johnson et al., 2020). These deficits in attention, executive function, and emotional regulation decrease the affected individual's mental and physical health and quality of life. ADHD and mental health conditions with similar symptomatology all respond well to cognitive and dialectical behavior therapy, particularly mindfulness practices (Fullen et al., 2020).

Both cognitive and dialectical behavior therapy use mindfulness as a critical component of the treatment to increase attention and presence in the here and now (Liu et al., 2023). The problem with this lies in the fact that the core of ADHD symptomatology is inattention and deficits in executive function (Bhagyesh & Anupama, 2023; Champ et al., 2021; French et al., 2024; Johnson et al., 2020). Mindfulness practices specifically address these symptoms by strengthening the individual's ability to sustain attention intentionally (Fullen et al., 2020; Shapero et al., 2018; Verhaeghen, 2021). Learning mindfulness practice can be difficult for those with ADHD because the inability to sustain attention consistently is a core symptom of the disorder. Still, when mastered, it can profoundly impact an individual's functioning and decrease the need for medications.

## Problem and Aim Statement

The treatment options for ADHD include medications, CBT, DBT, and mindfulness, which are the most effective options for care. Mindfulness is an independent treatment modality and provides the foundation for CBT and DBT. An assessment of an intensive mental health outpatient program in the Pacific Northwest determined that only 5-10 minutes of every 4-hour group therapy session focused on mindfulness activities, highlighting the limited use of mindfulness for patients with ADHD. The limited use of mindfulness training may have implications on the effectiveness of the CBT and DBT components of the program.

This project aims to add standardized mindfulness training at the beginning and throughout a CBT/DBT intensive outpatient treatment program. The overarching goal is to improve attention and executive functions in patients with ADHD, resulting in improved engagement and program completion.

## Context

This quality improvement project will be conducted at an intensive outpatient program (IOP) for mental health in the Pacific Northwest. The program provides cognitive and dialectical behavior therapy in a group setting to individuals with chronic, non-acute mental health disorders, such as anxiety, depression, bipolar disorder, or borderline personality disorder (without a substance use disorder) that impact their daily functioning. Though ADHD is not the primary mental health diagnosis treated during the program, it can co-occur with each of the supported diagnoses and affect treatment outcomes. Additionally, attending group therapy sessions and completing a chart review of past patients showed that individuals with ADHD diagnoses struggled to engage, and zero have been able to complete the six-week program.

While enrolled in the six-week group therapy program, individuals learn skills to improve their functioning using a combination of cognitive and dialectical behavior therapy. The cohort of 6-9 patients began the program on a rolling admission and received treatment Monday-Friday. Each group session starts with a 5–10-minute group building or mindfulness activity, followed by three hours of class instruction. In addition to group, individuals receive 2-3 hour long one-on-one therapy sessions per week with a provider or peer support to address specific treatment goals. Current practice concentrates on the CBT/DBT portion of the program and not the mindfulness practice component, which limits the effectiveness of the CBT/DBT. The practice change proposed will increase the follow-up and monitoring of the use of mindfulness to address the time and practice needed to gain maximum benefits.

The program has one full-time provider and two part-time providers. Additionally, it has two peer support providers to facilitate group and 1:1 sessions. The owners are the primary stakeholders and currently facilitate the group sessions, with the other providers supporting the 1:1 breakout sessions. This project's practice problem and aim were determined through stakeholder collaboration.

## Quality Improvement Framework

This quality improvement project will utilize the Institute for Healthcare Improvement (IHI) Model for Improvement (PDSA) framework. The team chose the IHI model based on their familiarity with it. The model has two parts; the first includes answering three questions: What are we trying to accomplish? How will we know that change is an improvement? What change can we make that will result in an improvement? This is followed by a plan-do-study-act (PDSA) cycle to test the change and adjust the interventions until the desired outcome is produced (*How to Improve*, n.d.).

Using the IHI model with PDSA test cycles provides detailed guidance for each change process step. Project development, per the IHI model, starts with the "plan" to answer the three primary questions of the IHI model and includes forming a team, setting aims, establishing measures, and selecting changes. After planning, the "do" or implementation commences, and results are collected for analysis. The team then "studies" the results of the implementation. Finally, the team will "act" on the results by putting the plan into permanent practice or refining it until the desired outcome or adapting, adopting, or abandoning the project. The detailed guidance of the IHI model supported the development of this quality improvement project.

## Methods

### Summary

The proposed quality improvement project will be conducted at an intensive outpatient mental health treatment program in the Pacific Northwest (PNW). The program provides intensive treatment to adults with stable mental health disorders who need more support than once-a-week sessions with a counselor but less support than partial or complete hospitalizations. The curriculum is based on cognitive and dialectical behavior therapy, which relies heavily on mindfulness skills in the treatment process. Unfortunately, the program does not have standardized training for mindfulness skills.

To best support the patient population and the program's use of a cognitive and dialectical behavior therapy treatment model, it was determined that adding early standardized mindfulness training to the current curriculum would allow for maximum treatment outcomes from the 6-week program. This project aims to add a standardized mindfulness training video from UCLA Mindfulness Education Center to the beginning of and throughout a CBT/DBT intensive outpatient treatment program to improve attention and executive functions in individuals with ADHD for improved engagement and program completion (*UCLA Mindful - Mindfulness Education Center*, n.d.). This standardized training will be augmented and reinforced during group and individual 1:1 therapy sessions provided by the trained mental health providers.

## Intervention & Implementation

Mindfulness skills are the cornerstone of cognitive and dialectical behavior therapy, but the current process does not include standardized mindfulness education early in the program. Not having this standardized education early in the program decreases the time available for individuals with ADHD to master the skill, which can impact their treatment outcomes. For this reason, on day one of the intensive outpatient treatment program, a standardized mindfulness orientation will be added to ensure that individuals receive a skill base early in the program.

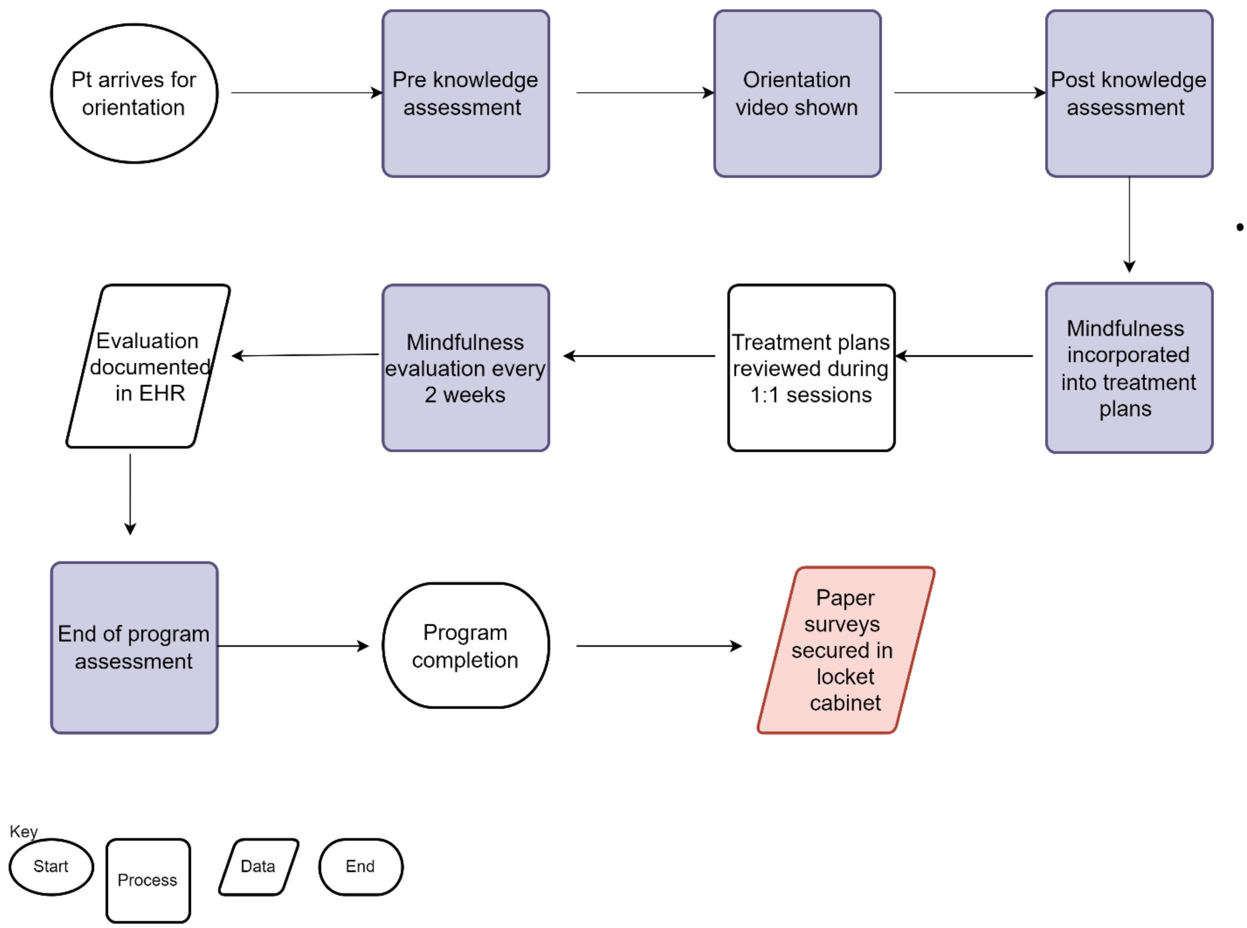
In the current process, the intake provider orients patients to the program and briefly explains mindfulness; there is no standardized process or follow-up on using mindfulness throughout the program. The new process will add a standardized mindfulness orientation at the start of the program, using a video from the UCLA Mindful Education Center, and follow-up evaluations of use and experience every two weeks during one of the patient's 1:1 sessions. The standardized mindfulness orientation will include an instructional video from the UCLA Health Mindfulness Education Center. Specifically,  the Mindfulness for Health and Well-Being | Diana Winston | UCLAMDChat video (UCLA Health, 2016). The video was chosen because of its evidence-based content (including the definition of mindfulness, the science of mindfulness, and the benefits of regular practice) and UCLA Health's reputation for quality care (UCLA Mindful—Mindfulness Education Center, n.d.). Providing a vetted instructional video will allow for the standardization of the information.

The initial mindfulness training will occur during the intake process and begin as before, with the patient arriving for orientation. The new process will start with the intake provider administering a pre-assessment questionnaire during the initial orientation to determine the patient's baseline awareness and attitudes about mindfulness practices. After the pre-assessment, the intake provider will facilitate viewing the selected video. Upon video completion, a post-assessment of the changes in knowledge and attitudes about mindfulness practice will be conducted, and individuals will have an opportunity to ask questions and clarify any areas of concern. Next, the intake provider will work with the patient to develop an individualized treatment plan, including mindfulness practices. The aim is 30 minutes/week of home practice to allow more time to practice mindfulness.

Monitoring use during the program will be completed through a review of the self-reported use of mindfulness; the facilitators and barriers to use will be assessed every two weeks during a 1:1 session. When needed, the provider can normalize any anxiety or boredom felt during initial practice, emphasize that benefits improve with time and training, and emphasize the importance of mindfulness in the effectiveness of the program (Schmidt et al., 2024; UCLA Health, 2012). The results from the 1:1 session will be charted in the electronic health record (EHR). A review of the chart notes will provide the needed information to support the use of mindfulness and its benefits for improved ability to engage with class work. The self-reported facilitators and barriers to practice will be used to complete the three PDSA cycles conducted during this project.

Finally, an end-of-program survey will be administered to gather feedback on the participants' awareness and attitudes about mindfulness, how the orientation impacted their treatment, and their intent to use mindfulness after completing the program. This information will be used to assess the impact and allow for modification of the intervention. See Figure 1 for the workflow diagram.

Figure 1 Workflow Diagram




There is minimal budgetary impact for incorporating the intervention into clinical practice. There is no cost for the video or additional provider time; the orientation and 1:1 sessions are already being conducted. The changes include adding a standardized mindfulness video orientation early and monitoring mindfulness practices during 1:1 sessions. The expectation is to allow for the fullest potential for individuals with ADHD to use mindfulness to improve their treatment outcomes.

Evaluation and Analysis.

The final analysis of these data sets will be computed using descriptive statistics, particularly percentage change from the beginning of the project until the end of the PDSA cycles. The goal will be to have three full two-week cycles. The number of patients enrolled during this six-week project will determine the final computations. Outcomes from the provided change to practice will be evaluated based on the SMARTIE goals created. The set goals for evaluation are 1.) ensuring 100% of the patient population receives standardized mindfulness instruction at the beginning of their program, 2.) improving awareness and attitudes about mindfulness practices through an increase in the responses by 1 point for each of the questions on the 1-5 Likert scale of the assessment questionnaires, 3.) Currently, there are no patients routinely using mindfulness outside of class, so the goal will be to increase this to 30% of the patient cohort practicing mindfulness outside of class, and 4.) increase the completion rate of patients with ADHD by 20%.

Evaluation of goal number one, to ensure 100% of the patient population receives standardized mindfulness instruction at the beginning of the program, will consist of a chart review by this PMHDNP student. The information collected will be documentation of the completion of mindfulness instruction. The expectation is to have all patients enrolled in the program receive standardized mindfulness instruction. The analysis of the data will be best determined by taking the number of newly enrolled patients and verifying that each received the orientation or documented reason for not completing; this will be represented visually using a pie chart.

The results from the baseline mindfulness assessment questionnaire, the post-orientation assessment questionnaire, and the end-of-program assessment questionnaire will determine the evaluation of goal number two, improving awareness and attitudes about mindfulness practices. Education is expected to increase awareness and improve attitudes towards mindfulness. The pre/post and end-of-program assessment questionnaire data will compare the change in the Likert scores for each question and be plotted on a run chart for visualization.

Evaluation of goal number three, having 30% of the patient cohort practicing mindfulness outside of class, will be completed by this PMHDNP student. A chart review by this PMHDNP student of the documented 1:1 treatment goal assessment will provide the number of times mindfulness has been completed outside of class along with the expressed facilitators and barriers to practice. This information will be entered into the Excel spreadsheet at each of the two-week assessment periods. The expectation for incorporating mindfulness is to have individuals use mindfulness outside of class. Data analysis will be completed by determining the percentage of patients using mindfulness based on the self-report during 1:1 sessions.  The reported facilitators and barriers to mindfulness practice will be used to determine how to set up the second PDSA cycle.

Evaluation of goal number four, measuring a 20% increase in the program completion rate of patients with ADHD. As each patient is discharged from the program, a charter review will be completed to note if the patient was discharged at program completion or if they were discharged before completion. The goal will be to have all patients able to complete the program in the six-week time frame. The expectation is a 20% improvement in the program completion rate for patients with ADHD. Baseline completion rates for patients with ADHD will be collected at the beginning of the project. They will then be compared to the total number of patients with ADHD who completed the program in six weeks after receiving mindfulness training. A scatter plot of the time needed to complete the program based on whether ADHD was or was not a diagnosis for the patient will provide a visual representation of the data points.

## Safety and Confidentiality

This evidence-based quality improvement project will not pose any risk to patients outside those involved with usual care delivery. For patients undergoing mindfulness training, risks include a possible increase in initial emotional and physical discomfort from exploring the sensations in the mind and body. All project activities fall within standard care delivery. As with any healthcare service, patients retain the right of refusal. No supplemental consent process is required for this quality improvement project.

Data collection and storage will comply with HIPAA regulations to protect personal health information. No full patient identifiers will be used; initials and program start date will suffice for enabling longitudinal data collection to evaluate project goals. Because much of this project will be completed virtually, there is a possible need to transmit the results from the assessment questionnaires by email; if needed, the secured EHR communication portal will be used. Paper questionnaires will be locked in a cabinet in the locked provider's office until data is entered into an Excel spreadsheet, and the hard copies will be shredded. The spreadsheet will have patients coded to remove patient identifiers at the time of entry. The spreadsheet will be stored on this student's personal computer. Utilizing these steps will ensure the safety of collected data to maintain patient privacy.

# CHAPTER THREE

# QUALITY IMPROVEMENT MANUSCRIPT

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## Introduction

ADHD and mental health conditions with similar symptomatology have varied responses to pharmaceutical interventions, but all respond well to cognitive and dialectical behavior therapy, particularly mindfulness practices (Fullen et al., 2020).

Both cognitive and dialectical behavior therapy use mindfulness as a critical component of the treatment protocol to increase attention and presence in the here and now (Liu et al., 2023). The problem with this lies in the fact that the core of ADHD symptomatology is inattention and deficits in executive function (Bhagyesh & Anupama, 2023; Champ et al., 2021; French et al., 2024; Johnson et al., 2020). Mindfulness practices specifically address these symptoms by strengthening the individual's ability to sustain attention intentionally (Fullen et al., 2020; Shapero et al., 2018; Verhaeghen, 2021). Learning effective mindfulness practice can be difficult for those with ADHD because their inability to sustain attention consistently is a core symptom of the disorder.

An assessment of an intensive mental health outpatient program in the Pacific Northwest determined that only 5-10 minutes of every 4-hour group therapy session focused on mindfulness activities, highlighting the limited use of mindfulness for patients. This may have implications for the effectiveness of the CBT and DBT components of the program for patients with ADHD because of their inattentiveness. Adding a standardized mindfulness education via video to the program orientation will provide early mindfulness instruction, allow for more effective implementation throughout the program, and improve the attention of individuals with ADHD.

Available knowledge

Eighteen percent of the psychiatric population has an ADHD diagnosis compared to 2.5% of the general population. The increased prevalence of ADHD in the psychiatric population influences treatment outcomes. Medications and psychotherapy efficiently treat ADHD and can be used as treatments independently or combined for better results (Monteiro et al., 2024). While medications are commonly used in ADHD treatment, non-pharmacological therapies, mindfulness in particular, are routinely underutilized.

Medications, both stimulant and non-stimulant, are the first-line recommendation for the treatment of ADHD (Bhagyesh & Anupama, 2023; Fullen et al., 2020; Gerhand & Saville, 2022; Johnson et al., 2020; Koyuncu et al., 2022; Monteiro et al., 2024; Olagunju & Faraz, 2024). Medications have the advantage of working quickly; despite this advantage, treatment mainly targets the primary symptoms of ADHD (hyperactivity, impulsivity, inattention), not secondary symptoms (executive dysfunction and emotional dysregulation), and the treatment does not last once medications wear off (Bhagyesh & Anupama, 2023; French et al., 2024; Koyuncu et al., 2022; Monteiro et al., 2024).

Psychotherapy, including CBT, DBT, and mindfulness, all take time to realize maximum improvements; however, once achieved improvements occur in both primary and secondary symptoms and last even after treatment completion (Champ et al., 2021; Chen et al., 2022; Fullen et al., 2020; Halmøy et al., 2022; Janssen et al., 2020; Liu et al., 2023; Strålin et al., 2022). Mindfulness shows the most promise in treating ADHD (without medications) as both a standalone practice and when CBT or DBT is used. In addition, mindfulness can improve primary and secondary symptoms, which are common in not only ADHD but many other mental health disorders that co-occur and mimic ADHD (Fullen et al., 2020; Halmøy et al., 2022;

Janssen et al., 2020). A key consideration for mindfulness is the time and training needed for maximum benefits (Janssen et al., 2020; Strålin et al., 2022). Formal mindfulness programs are 6-8 weeks long and concentrate solely on developing mindfulness skills. The training required to achieve maximum benefits indicates that individuals new to mindfulness would benefit most from dedicated instruction early and consistently in CBT or DBT-based treatment programs.

## Framework

The Institute for Healthcare Improvement (IHI) Model for Improvement (plan, do, study, act (PDSA)) framework was utilized to guide project development. The established and well-known model provides the treatment team with the structure needed to develop an evidenced-based quality improvement project that maximizes the benefits of mindfulness in an intensive outpatient mental health treatment program to improve attention and engagement for improved patient outcomes. Utilizing PDSA cycles allows for multiple small-scale trials of change to be implemented, evaluated, and then modified until the target outcome is obtained, or the proposed change is abandoned. Completing small trials improves efficiency and conserves resources before implementing such a change on a large scale.

## Specific aims

This project aims to add a standardized mindfulness training video from the University of California, Los Angeles (UCLA) Mindfulness Education Center to the beginning of and throughout a CBT/DBT intensive outpatient treatment program to improve attention and executive functions in individuals with ADHD, thereby improving engagement and program completion (UCLA Mindful—Mindfulness Education Center, n.d.).

# Methods

## Context

This quality improvement project was conducted at a newly established (less than a year old) intensive outpatient program (IOP) for mental health in an urban practice in the Pacific Northwest. The program provides an intensive six weeks of daily cognitive and dialectical behavior therapy and mindfulness practice in a group setting to individuals with acute flares of their chronic mental health disorders, such as anxiety, depression, and bipolar disorder (without a substance use disorder) which impact their ability to function daily. Because patients with ADHD struggle with inattention and focus, it is difficult for them to engage in therapy such as CBT and DBT, which impacts the effectiveness of the treatment program (French et al., 2024). Patients are admitted to the program on a rolling basis (new patients start on Mondays after their initial intake) through direct referrals from their mental health providers, as a step-down option from inpatient care, or through self-referrals.

While enrolled in the six-week group therapy program, individual patients work with the treatment team to learn new skills to improve their functioning using a combination of cognitive and dialectical behavior therapy. Each group session starts with a 5–10-minute group building or mindfulness activity, followed by three hours of class instruction. Treatment occurs between 8 a.m. and 12 p.m., Monday through Friday. In addition to group sessions, specific treatment goals are addressed by a provider or peer support specialist during each of the patient’s 2-3 one-on-one therapy sessions. An evaluation of previous patients enrolled in the program showed that individuals with ADHD diagnoses struggled to engage, and none have been able to complete the six-week program. This factor highlighted the need for a program change.

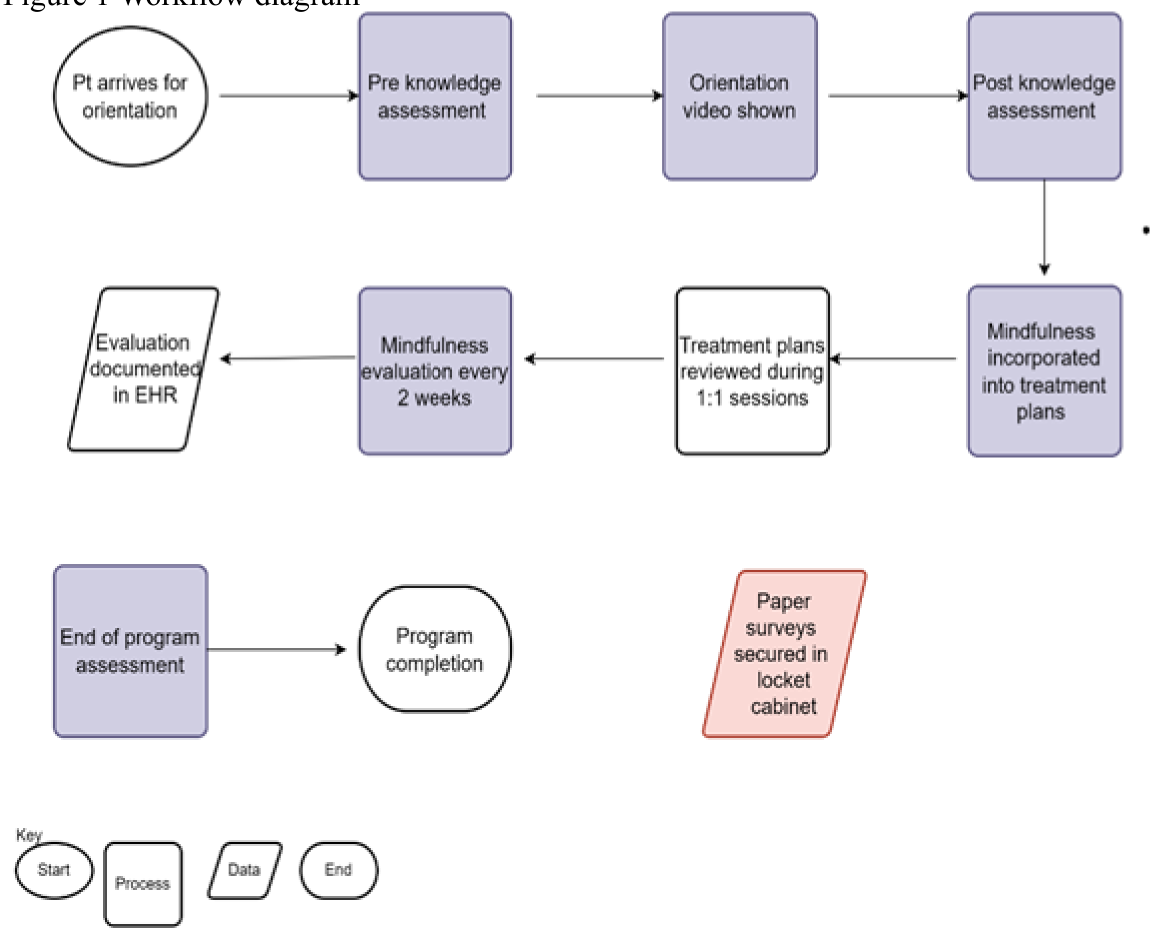
Intervention

Mindfulness skills are the cornerstone of cognitive and dialectical behavior therapy (Halmøy et al., 2022). However, the current process at the intervention site does not include standardized mindfulness education early in the program. The effect of not having this standardized education early in the program decreases the time available for individuals with ADHD to master the skills required to become proficient in mindfulness, which can impact their treatment outcomes. For this reason, on day one of the intensive outpatient treatment program, a standardized mindfulness orientation will be added to ensure that patients receive a skill base early in the program.

In the current process, the intake provider orients patients to the program and briefly explains mindfulness; there is no standardized process or follow-up on using mindfulness throughout the program. The new process will add a standardized mindfulness orientation at the start of the program, using a video from the UCLA Mindfulness Education Center, and follow-up evaluations of use and experience every two weeks during one of the patient's 1:1 sessions. The standardized mindfulness orientation will include the Mindfulness for Health and Well-Being | Diana Winston | UCLAMDChat video (UCLA Health, 2016). This video was chosen because of its evidence-based content (including the definition of mindfulness, the science of mindfulness, and the benefits of regular practice) and UCLA Health’s reputation for quality care (UCLA Mindful—Mindfulness Education Center, n.d.). Providing an evidence-based instructional video will allow for the standardization of the information.

The initial mindfulness training will occur during the intake process and begin as before, with the patient arriving for orientation. The new process will start with the intake provider administering a pre-assessment questionnaire during the initial orientation to determine the patient's baseline awareness and attitudes about mindfulness practices. After the pre-assessment, the intake provider will facilitate viewing the selected video. Upon video completion, a post-assessment of the changes in knowledge and attitudes about mindfulness practice will be conducted. Next, the intake provider will work with the patient to develop an individualized treatment plan, including mindfulness practices. The aim is 30 minutes/week of home practice to allow more time to practice mindfulness. At the completion of the program, a final assessment of the individual's intent to continue to use mindfulness outside of class will be administered.

Figure 1 Workflow diagram



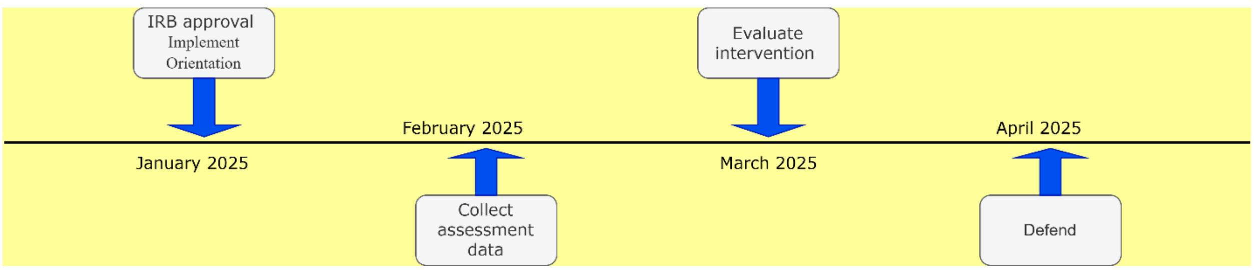
Measures

Outcomes from the provided change to practice were evaluated based on the Specific, Measurable, Action-oriented/attainable, Relevant, Time-bound, Inclusive, and Equitable (SMARTIE) goals created. The set goals for evaluation were: 1.) Ensure 100% of the newly enrolled patients receive standardized mindfulness instruction at the beginning of their program, which was determined by taking the number of newly enrolled patients and dividing it by the number of documented orientations 2.) Improve awareness and attitudes about mindfulness practices by increasing the responses by 1 point for each of the questions on the 1-5 Likert scale of the assessment questionnaires, 3.) Increase mindfulness practice outside class from 0% to 30% of the cohort. This measure was determined through the information collected from the two-week follow-up sessions that assessed the patients participating. The number of patients practicing was divided by the total number of patients participating in the project. Additionally, the expressed facilitators and barriers to participating in a home practice were grouped by response to show the most common results. 4.) Increase the completion rate of patients with ADHD from 0% to 20%. This was determined by taking the number of patients in the graduating cohort and dividing it by the number of patients with ADHD who completed the program after receiving the mindfulness instruction.

Results

The program team was excited to begin; the quality improvement project initiation went as planned, and the project's completion followed the expected implementation timeline, with patient confidentiality and safety maintained throughout the project. The patient data collection started with the first patient enrolled during the project's six-week data collection period (December 16, 2024, and January 27, 2025). Due to the program's rolling admission, only one patient could complete the six-week implementation with a full complement of the before and after data collection and the bi-weekly check-in data. The information collected was analyzed using both qualitative and quantitative methods.

Figure 2 Implementation timeline




The first goal was to ensure that 100% of the newly enrolled patients received standardized mindfulness instruction at the beginning of the structured program. This goal was met by providing standardized mindfulness instruction to the patient who started the program on December 16, 2024. This date started the data collection time frame and resulted in only one patient being monitored for the quality improvement project to monitor results from the orientation video to program completion in the six-week timeframe. This results in 100% of the newly enrolled patients receiving mindfulness orientation. The project team was eager to provide information to all the patients enrolled at the time of the project initiation. As a result, they independently elected to show the selected mindfulness video during one of the group sessions. Anecdotally, one of these patients expressed gratitude for the education; they endorsed having a greater understanding of mindfulness and would be better able to use the skill more effectively going forward.

The second goal was to increase knowledge and attitude regarding mindfulness by one point on the Likert scale. Due to self-reported prior knowledge and understanding of the concepts associated with mindfulness, the patient endorsed no change in the Likert scores between the pre- and post-orientation surveys, so the second goal was not met.

Goal three was to have 30% of the patient cohort practice mindfulness outside therapeutic class time. This goal was met because the program participant practiced mindfulness outside of class time, resulting in 100% of the patients who received the mindfulness training practicing outside of class. The initial surveys also asked how confident the patient was in engaging in mindfulness practice outside of class; the patient responded with concerns about balancing family obligations and finding time to practice outside of class; this was confirmed at the two-week follow-up. Conversely, they said a mindfulness app facilitated the practice 2-3 times a week.

Finally, measure four was to have more patients with ADHD complete the program. However, this goal was not met due to the limited new participant enrollment and data collection constraints associated with the tight time frame of the agreed-upon implementation and data collection period. The patient enrolled in the project was able to complete the program in the six-week timeframe; however, it was discovered that they did not have a corresponding ADHD diagnosis.

The original program proposed having three complete two-week PDSA cycles, yet during the time between project approval and initiation, the facility had an unanticipated opportunity to expand its program. This change in program focus impacted the clinic team's availability for follow-up surveys and data coordination, altering the completion of the planned PDSA cycles.

The team completed two follow-up evaluations but could not get the hard copy assessments scanned into the electronic health record until the end of the data collection timeframe. The project leader sent emails during the two weeks, but the team did not check their email regularly. A follow-up text was sent to the team, prioritizing getting the data in the electronic health record for review. At the end of the data collection cycle, all the follow-up surveys were entered into the patient chart for analysis, but this did not allow adjustments to be made at the end of each planned two-week PDSA cycle. The final data collection opportunity was missed when the patient completed and was discharged from the program before completing an end-of-program assessment.

Although the planned PDSA cycle intervention was met with several unanticipated changes, including the decrease in the availability of documentation and communication with the project lead, the program's team was committed to implementing improved and consistent mindfulness opportunities built into their therapeutic service program. As previously mentioned, the team eagerly began implementing more significant mindfulness practice opportunities during the group therapy sessions, with plans to continue this practice with all patients seeking care at this facility.

## Discussion

### Summary

The prevalence of ADHD is known to be higher in the psychiatric population than in the general population (18% compared to 2.5%) (Gerhand & Saville, 2022). Many symptomatic individuals are treated for anxiety, depression, and other mental health struggles as stand-alone disorders instead of comorbid symptoms of ADHD.  Impressively, treatment outcomes for patients with and without ADHD improve with mindfulness, highlighting that all patients could benefit from a more robust education on mindfulness practice (Verhaeghen, 2021). This was highlighted when the treatment team showed the orientation video to the enrolled cohort and the program participants. After viewing it, one of the other patients endorsed that they had a greater understanding of mindfulness and could improve their practice. Unfortunately, this project could not fully utilize this information to assess the impact of mindfulness training at the beginning and throughout the IOP to enhance the attention and engagement of patients with ADHD at the intervention site due to the limited data collection timeframe and the rolling admission cycle utilized for enrollment compounded by an unanticipated refocus of the program site towards program expansion.

The project effectively provided a mindfulness orientation to the enrolled patient and had 100% rather than the expected 30% of the patient population engaged in mindfulness practice outside of the treatment class. However, the provided mindfulness education did not improve the knowledge and attitudes about mindfulness or increase the completion rates of individuals with ADHD due to the patient knowing and agreeing with the benefits of mindfulness practice before starting the program. Additionally, despite completing the program in the six-week time frame, the program participant did not have a corresponding ADHD diagnosis. Therefore, goal four was not met.

Although goals two and four could not be met during the designated intervention time frame, goals one and three were met. As a result of the apparent success of meeting goals one and three, the team's interest in increasing the mindfulness training for their program continued. The treatment team increased mindfulness activities during the group therapy sessions. Instead of the 5-10 minutes allotted before practice change discussions, the team now uses mindfulness during the opening mindfulness activity and consistently throughout the six-week program.

## Implications for practice

The implications for practice discovered while implementing the quality improvement project of adding standardized mindfulness training to the initial IOP are limited. Replicating the intervention with multiple patients to compare outcomes would be required to generate sufficient data points to note statistically relevant associations between the proposed intervention and any resulting outcomes. In this initial intervention, the single program participant who completed the prescribed six-week intervention did not have a corresponding ADHD diagnosis; the proposed goals met were not assessed concerning a patient with ADHD. As a result, there is much room for future modifications to the project plan to determine the impact of improved and consistent use of mindfulness for treating patients with ADHD.

## Limitations

There were many limitations to successfully evaluating the impact of adding standardized mindfulness education at the beginning and throughout the IOP. The constraints of the data collection timeline and the program's rolling admission did not allow for multiple patients with ADHD-specific mental health conditions to be available for project participation. Additionally, the program team generated their assessment surveys rather than using validated measurement tools. Finally, the facility began an unanticipated program expansion during the project implementation timeframe. This changed the program team's availability to complete the follow-up assessments and comprehensive documentation at the proposed time intervals. These factors significantly impacted the data available to evaluate the effectiveness of the practice change accurately.

The constraints of having a six-week narrow time frame for data collection and the semester parameters for project completion resulted in one participant completing the project. Upon review, it was determined that the project would have worked better with a simultaneous enrollment of individuals with ADHD co-occurring with the targeted anxiety, depression, and PTSD treated by the IOP. In contrast, the single participating patient did not have an ADHD diagnosis; instead, they suffered from anxiety, depression, and PTSD. The patient being followed was also very knowledgeable about mindfulness and its importance in daily activities. This eliminated the option to assess the impact of early mindfulness education on a patient with ADHD in an IOP.

Additionally, using a self-generated survey rather than a validated tool resulted in a poorly constructed survey that limited the information available for assessment. The initial aim was to keep the surveys simple to increase the patient's desire to engage. However, this decreased the quality of the information provided and, thus, the quality of the data revealed. The assessment tools may also have provided different data with a patient with an ADHD diagnosis.

Finally, after completing the project proposal, the program expanded its services, changing the staff's availability for follow-up evaluations. The team was able to complete two follow-up sessions but did not make the information available for review until the end of the program. Additionally, there was no opportunity to complete the enrolled patient's end-of-program assessment to determine their intent to continue mindfulness after the program. This affected the information available for analysis and evaluation of the impact of practice change.

Lessons learned

Throughout the planning, implementing, and evaluation for this quality improvement project, several lessons were learned. Problem development is crucial; incorporating the facility's needs, program constraints, and personal interests was difficult but improved the engagement of all parties. Discovering the impact of mindfulness on the treatment outcomes for the IOP patients with ADHD was important, along with considering how the intervention would improve the outcomes for all patients if an individual with an ADHD diagnosis was not utilized. This might have meant changing the target population or considering focusing on overall program improvement instead of a specific population. This would have also been important when deciding on evaluation tools; it is important to consider what information will be gathered with the assessment tools utilized and if it can evaluate a change in patients who have used mindfulness. Use a validated tool when possible or create an assessment that can be used with patients who have a knowledge and understanding about mindfulness. Finally, expect communication difficulties and incorporate methods and timing of communication into the project plan. In conclusion, the outcomes of implementing mindfulness orientation into an IOP could be improved in future projects by considering the lessons learned during the creation of this evidence-based quality improvement project.

Recommendations

Mindfulness practice has a vital role in improving the effectiveness of psychotherapy and controlling ADHD symptoms. For this reason, further research is needed to increase the effectiveness of this skill for individuals with ADHD. The information collected on the implementation of this project can guide future endeavors.

The first recommendation would be to repeat the intervention in an IOP with a larger sample size and a closed-session group. One-third of the individuals seeking mental health treatment have a mental health disorder with co-occurring ADHD (Gerhand & Saville, 2022), so increasing the sample size will increase the likelihood of evaluating the intervention on an individual with ADHD. Multiple data points are needed to evaluate the effectiveness of the intervention. A closed group would have all the patients at the same stage in the program and ensure that each receives the same information on the same days. This would decrease the variables that may affect the treatment outcomes. It is difficult to compare patients when they have different knowledge bases. Additionally, it allows a comparison of the impact of increased use of mindfulness between patients with and without ADHD.

Many symptomatic individuals who would meet the criteria for an ADHD diagnosis did not receive their diagnosis during childhood. For this reason, recommendation two is to increase screening and assessment to find which patients have undiagnosed co-occurring ADHD. This can be done by adding a screening tool, such as the Adult Self-Report Scale (ASRS-v1.1), into the intake tool kit (Anbarasan et al., 2020). Although treating all patients as though they have a deficit of attention and executive functions improves care, it does not allow for the holistic treatment of patients diagnosed with ADHD.

The final recommendation is to perform the intervention with a group of patients who have a confirmed ADHD diagnosis. Implementing mindfulness training early for a group of individuals with ADHD would homogenize the population and theoretically show how many individuals were able to complete an IOP within a six-week time frame. Without implementing the intervention on the target population, it is not possible to determine its effectiveness.

## Conclusions

Mindfulness is the ability to pay attention purposefully and has been scientifically proven to increase attention and focus for all who utilize the skill regularly (Verhaeghen, 2021). Mindfulness practice is safe, tolerable, and cost-effective and can be incorporated into all aspects of life. It does not require special equipment; many free options exist to expand one's skills. The only equipment needed for individual mindfulness practice is time and intent. Additionally, mindfulness integrates seamlessly with other therapeutic models of care, particularly CBT and DBT, as shown by the warm reception of use by the staff and patients at the quality improvement site. This provides many opportunities to incorporate the practice into any therapeutic milieu.

For most, mindfulness is not an intuitive skill; being present in the here and now takes effort and practice. This is especially true of individuals with ADHD, as they are hard-wired for distraction. As a result, these individuals would benefit from more training and practice to re-wire their brains to develop this skill. Increasing time and focus on building mindfulness skills will improve the individual's ability to focus and pay attention purposefully. Improving the ability to focus and pay attention purposefully enhances treatment engagement for all individuals and is particularly important for those with ADHD. Improving mindfulness skills improves symptom control of ADHD symptoms, particularly selective attention. This quality improvement project incorporated standardized mindfulness training into the orientation component of the program, ensuring that each new patient receives the training needed to implement this critical treatment program component and to allow for maximum time to practice the skills required to improve patient engagement and ultimately improve patient outcomes.(Liu et al., 2023). While the program participant did not have a co-occurring ADHD diagnosis, the program was also to increase the use of mindfulness throughout the treatment program. In this way, all the other patients of the program, both with and without ADHD, had increased exposure to the importance of mindfulness practice. This ultimately increased exposure to and provided opportunities to practice this skill and increase home practice.

As a result, despite low numbers, this initial program was a success. While all four goals proposed were not met, mindfulness was well received by the staff and the patients of the IOP; having buy-in is more important than having a perfect initial plan. Alternately, the team's confidence in the questions selected for the pre/post/end of program assessment surveys, the self-reported knowledge, and attitudes toward mindfulness on their self-generated questionnaires may have introduced the possibility of a response bias. Implementing the available knowledge supporting the use of mindfulness to increase attention and focus for individuals with ADHD was challenging due to the rolling admission and data collection timeline, which did not ensure the mindfulness orientation would be utilized on a patient with ADHD to improve the outcomes of patients with this diagnosis. Despite not having the opportunity to evaluate the effectiveness for a patient with ADHD, there was an anecdotal endorsement from another patient in the program that showed merit for future use of the standardized orientation; this patient noted that the mindfulness training video improved their understanding of mindfulness and their ability to utilize this tool in the future. This endorsement supports the continuing use of standardized orientation for further cohorts, both with and without ADHD. Mindfulness is a significant component of both CBT and DBT treatments; improving the effectiveness of mindfulness will improve the overall treatment and patient outcomes.(Liu et al., 2023). This project has shown that standardized mindfulness education added to an IOP's orientation can improve patients' understanding and use of mindfulness. Utilizing this information with future cohorts of patients seeking care for mental health concerns, as well as those patients with co-occurring ADHD, could be beneficial.

# CHAPTER FOUR

## ADVANCED NURSING ESSENTIALS REFLECTION

The journey to completing my Psychiatric Mental Health Doctor of Nursing Practice (PMHDNP) degree has spanned over the last decade. Officially, I started the Doctor of Nursing Practice (DNP) program at Montana State University (MSU) in 2015 and completed one year before needing to take a life break. Then, two years ago, life realigned so I could return to MSU and continue working towards completing my degree. Now, with only months until graduation, I am confident that MSU has given me a solid educational foundation to practice safely and confidently as a Psychiatric Mental Health Advanced Practice Registered Nurse Practitioner (APRN).

The curriculum offered at Montana State University provided the foundation for my education aligns with the Essentials of Doctoral Education for Advanced Nursing Practice developed by the American Association of Colleges of Nursing (AACN). These eight essentials ensure that the education provided by each College of Nursing is standardized and comprehensive. As a result, the Doctor of Nursing Practice (DNP) graduate is well-prepared to lead and improve health care. MSU provided various didactic and clinical opportunities, through which I have developed the skills needed to confidently provide care as an independent Mental Health Nurse practitioner. The courses required by MSU's College of Nursing program collectively support mastery of the eight essentials developed by the AACN. Competency in each essential was honed by targeting the learning objectives of each course through discussions, tests, assigned readings, and specific projects.  The sequencing of the courses effectively introduced and built upon previous knowledge to develop and carry out comprehensive patient care and create a compelling final DNP quality improvement project.

Essential I: Scientific Foundations for Practice expects the learner to have the ability to integrate nursing science with other sciences, such as ethics and biology. I met Essential I by completing the clinical practice courses N631 Advanced Clinical I: Advanced Nursing Practice and Psychiatric Care Formulation, N632 Advanced Clinical II: Psychotherapeutic Modalities Across the Lifespan, and N634 Advanced Clinical IV: Advanced Practice Leadership in Community and Acute Settings. These courses allowed me to apply the didactic learning experience in a clinical situation, apply science-based theories to a clinical practice issue, and translate knowledge into practice. Through case studies and clinical patient interactions, I progressively developed and built upon skills presented in each course. In creating a clinical case study, I was required to assess a patient and develop a written biopsychosocial formulation. Being able to formulate a comprehensive written case formulation skillfully is the basis of providing quality care as an Advanced Practice Registered Nurse and the epitome of integrating nursing science with other sciences.

Essential II: Leadership and Systems Thinking for Quality Improvement expects the learner to have the ability to develop and access new care models, ensure high-quality care, and handle ethical issues in patient care. I met this essential by completing NRSG 608 Design of Healthcare Delivery Systems, NRSG 609 Advanced Nursing Leadership, NRSG 611 Program Planning and Evaluation, Outcomes & Quality Improvement, and NRSG 613 Financing and Budgeting of Healthcare Systems. NRSG 608 Design of Healthcare Delivery Systems, introduced the components of developing and planning a quality improvement project, starting with auditing a healthcare facility's workflow and efficiency with tools such as value mapping, spaghetti diagrams, and swim lane charts. NRSG 611 Program Planning and Evaluation, Outcomes & Quality Improvement enhanced the skills learned in N608 Design of Healthcare Delivery Systems. In NRSG 611 Program Planning and Evaluation, Outcomes & Quality Improvement, I worked with a small group of peers to develop a theoretical quality improvement project. We were concerned about the frequency of depression screening in primary care. By completing a literature review, we collected the information needed to develop a plan to increase depression screening in a primary care setting.

Essential III: Clinical Scholarship and Evidence-Based Practice expects the learner to have the ability to critically review research, design and implement ways to evaluate health care outcomes, and apply research findings to improve practices. I met this essential through the skills taught in NRSG 604 Evidence-based Practice I and NRSG 605 Evidence-based Practice II. I learned how to turn a phenomenon into a question, conduct a literature review, and then synthesize the discovered information to develop a plan to address the phenomenon of interest. The compiled data was then used to create and implement theoretical, evidence-based Quality Improvement projects.

Essential IV: Technology and Information Systems for Health Care Improvement expects the learner to be able to design and evaluate programs to monitor care quality and outcomes, understand health care information systems, and address ethical and legal issues related to technology. I met this essential by completing NRSG 610 Healthcare Informatics. In this course, I explored various forms of technology that are available for documentation and patient monitoring. I collaborated with a small group to create and evaluate a program that uses health information technology to develop a data analysis project.

Essential V: Health Care Policy and Advocacy expects the learner to have the ability to analyze health policies, lead in policy creation and implementation, and advocate for nursing and health policies. NRSG 612 Ethics, Law, and Policy for Advocacy in Healthcare met this essential by expecting me to pick a topic of interest and research the current health policy associated with the concern. I then conducted a policy analysis brief and wrote a letter advocating for the changes in the current policy. Additionally, I engaged in a small group project exploring the consequences of the Opioid epidemic and how it took a nationwide crisis to begin the changes in prescribing practices.

Essential VIII: Advanced Nursing Practice expects the learner to have the ability to perform thorough health assessments, design treatments based on nursing and other sciences, build strong patient relationships, and show advanced clinical judgment. This was accomplished in NRSG 629: Introduction to Advanced Practice Psychiatric Mental Health Nursing and the newly offered NRSG 691 Case Formulation. NRSG 629 Introduction to Advanced Practice Psychiatric Mental Health Nursing gave me the foundation for mental health assessment completion and effective use of the Diagnostic and Statistical Manual of Mental Health Disorders (DSM-5 TR) criteria to establish a working diagnosis to guide patient care. I had the opportunity to conduct comprehensive and systematic assessments of patients with complex health issues, develop a detailed care plan based on the evaluation, and implement and evaluate a therapeutic intervention for a patient or group of patients, demonstrating advanced clinical judgment and evidence-based practice. NRSG 691: Case formulation allowed me to expand the skills learned in NRSG 629 Introduction to Advanced Practice Psychiatric Mental Health Nursing and focus on understanding psychiatric conditions.

The culmination of skills developed over the last two years (plus a decade) has provided the tools needed for the year-long NRSG 675 DNP Scholarly Project I and II courses. The aim of these courses is to collaborate with a healthcare facility and develop a quality improvement project resulting in a system-level practice change that improves patient outcomes. All the preparation is provided by completing each of the courses leading up to the final DNP project. I had significant difficulty initially putting all the pieces together, but after some much-needed support from my project committee, I was able to produce a project worthy of a Doctor of Nursing Practice Degree. For this project, I had the opportunity to work with a newly established intensive outpatient mental health program. The program utilizes a combination of CBT and DBT in their group sessions. Initially, I assessed the practice to determine where improvement could occur and noticed that the individuals with ADHD were struggling to engage and complete the treatment program. After I conducted a comprehensive literature review, I found that both CBT and DBT strongly rely on mindfulness practices for the best patient outcomes, patients with ADHD struggle with the attention needed to engage in mindfulness and therapy, and that mindfulness practice improves the ability to pay attention. After consulting with the treatment team, it was determined that the 5-10 minutes designated for a mindfulness activity at the beginning of each 4-hour therapy session was not adequate, particularly for individuals with ADHD. As a result, the team decided to add a standardized mindfulness orientation to the beginning and increase the use of mindfulness throughout the program.

To accomplish this practice change, I led the team through the planning, implementing, and evaluating stages of the project. I was able to share the information discovered in the literature search to develop the initial plan to increase the impact of mindfulness practice on patient outcomes. The decision was made to add a mindfulness orientation video to the program's orientation process. There was a significant distance between my location and the facility, so I coordinated with the team using technology to implement and evaluate the intervention. The team was excited to increase the impact of mindfulness practice and implemented the intervention. Unfortunately, there were challenges with communication, and the treatment team was not able to complete all aspects of the project. They were able to increase the use of mindfulness during the therapy sessions, so even though the formal project had some room for improvement, the change needed was adopted. This is the final test of a well-developed project and the proof that the education provided by MSU has prepared me for my future role as a doctorally prepared Advanced Practice Psychiatric Nurse Practitioner.

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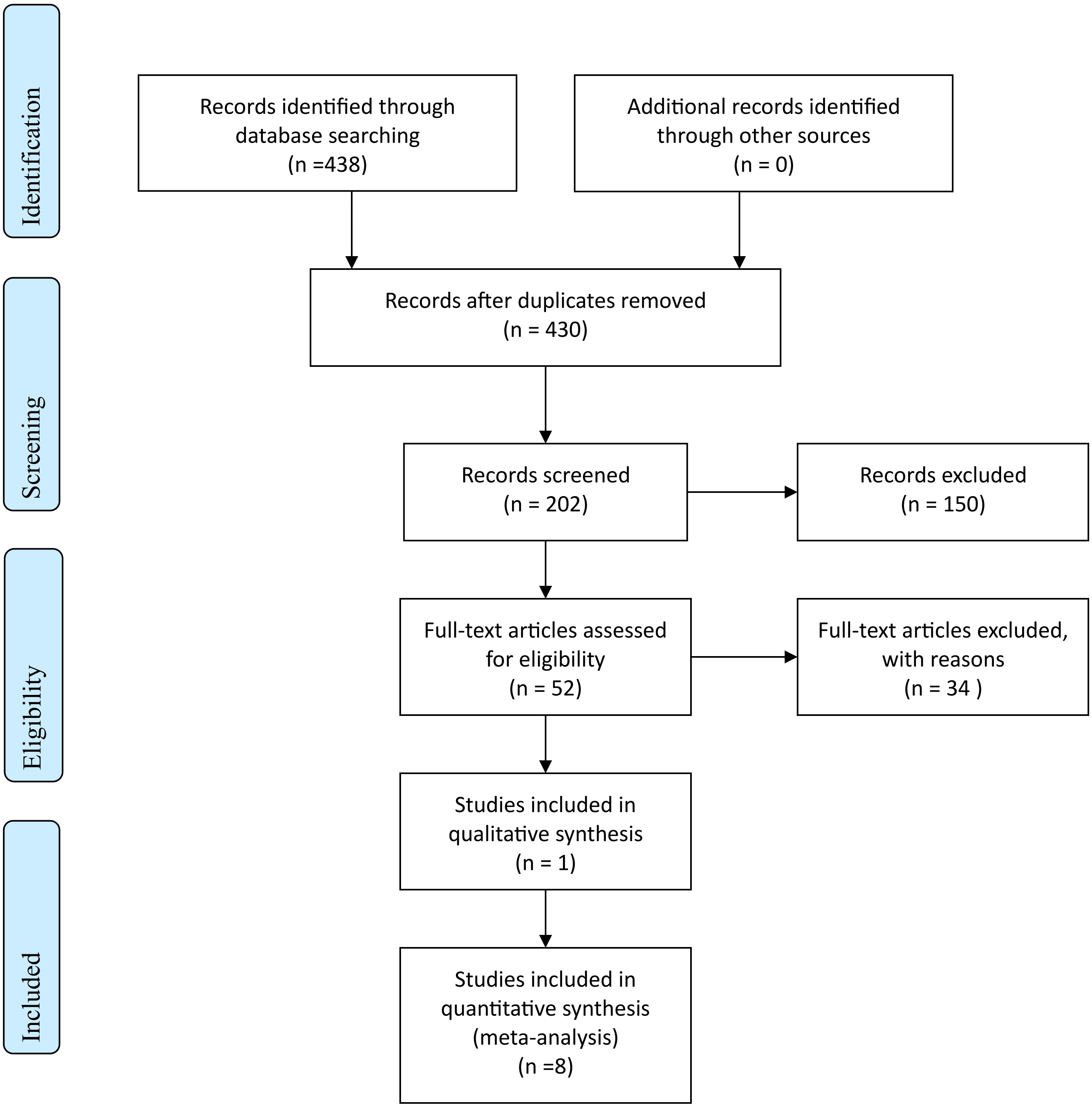
# APPENDICES

# APPENDIX A

## PRISMA DIAGRAM

Appendix A: Prisma Diagram



# APPENDIX B

## ASSESSEMENT QUESTIONAIRES

Appendix B: Pre/post-orientation assessment questionnaire:

Patient Initials: _______________ Program start date: ________________

Active mental health diagnoses: ____________________________________________________

1.) Have you had previous experience with mindfulness? Y N

2.) What does mindfulness mean to you?

**Please rate the following, with 0 being low (not important) and 5 being high (very important)**

3.) How would you rate the importance of mindfulness:

0 1 2 3 4 5

4.) Do you believe that being skilled at mindfulness can improve your mental health?

0 1 2 3 4 5

5.) Do you think that you would be able to practice mindfulness outside of class?

0 1 2 3 4 5

Appendix B continued: End of program assessment questionnaire:

Patient initials: ____________ Program start date: _______________

Active mental health diagnoses: ________________________________________________

1.) Now that you have completed the program. What does mindfulness mean to you?

**Please rate the following, with 0 being low (not important) and 5 being high (very important).**

2.) How would you rate the importance of mindfulness?

0 1 2 3 4

3.) Do you believe that being skilled at mindfulness can improve your mental health?

0 1 2 3 4 5

4.) Do you think that you would be able to practice mindfulness outside of class?

0 1 2 3 4 5

5.) How would you rate your change in attitude toward mindfulness:

0 1 2 3 4 5

6.) Do you think the initial mindfulness training helped complete the program?

0 1 2 3 4 5

# APPENDIX C

SMARTIE GOALS

Appendix C: Table 1 SMARTIE Goals

<table>
<tr><td colspan="3">SMART Goal #1 Short-term: 100% of all patients in the intensive outpatient treatment program will receive mindfulness training.</td></tr>
<tr><td colspan="3">• All patients enrolled in the Intensive Outpatient Treatment Program (IOP) will receive initial education on mindfulness practices using Mindfulness for Health and Well-Being | Diana Winston | UCLAMDChat UCLA Mindful mindfulness introduction videos.<br>o On the first day of the program, the intake provider or one of the other group facilitators will show the video on the big screen in the group therapy room.</td></tr>
<tr><td>Data to be collected</td><td>Collection Process</td><td>Planned data analysis</td></tr>
<tr><td>• Documented completion of the initial mindfulness instruction in EHR.</td><td>• The documented mindfulness training will be collected via chart review of each patient.<br>• A yes/no indicator will be entered into an Excel spreadsheet.<br>• A patient identifier code will be established to allow for longitudinal tracking of mindfulness engagement.</td><td>• The rate of education will be calculated and presented as a percentage.<br>• Total provided mindfulness training/ Total enrolled<br>.</td></tr>
</table>

Table 1 continued

| SMART Goal #2 Improve knowledge and attitudes about mindfulness practices | | |
|---|---|---|
| • All patients enrolled in the IOP will receive pre- and post-mindfulness instruction and an end-of-program assessment.<br>○ The intake provider or group facilitator will administer the assessments. | | |
| Data to be collected | Collection Process | Planned data analysis |
| • Mindfulness Assessment Scores at 3 time points- 1) at the program start, 2) after viewing the orientation video, and 3) at the completion of the program. | • Paper surveys will be administered by the intake provider or one of the group facilitators.<br>• The Likert scores for each survey assessment question will be entered into the Excel spreadsheet for analysis. | • Likert score changes for each question will be color-coded for pre/post/end of the program in different colors and plotted on a run chart. |

Table 1 continued

| SMART Goal # 3: 30% of the patients will use mindfulness practice outside class. | | |
|---|---|---|
| • All patients enrolled in the Intensive Outpatient Treatment Program will have their treatment plans reviewed for mindfulness every two weeks during a 1:1 session. | | |
| Data to be collected | Collection Process | Planned data analysis |
| • Self-report of mindfulness outside of class in the last 2 weeks.<br>• Patient communicated facilitators and barriers to practice. | • Staff members conducting the 1:1 session will inquire about mindfulness outside class.<br>• The expressed facilitators and barriers will be documented in the 1:1 session treatment note.<br>• The PMHDNP student will conduct a chart review.<br>• Information will be entered into the Excel data sheet for analysis. | • Comparison of the enrolled patients who used mindfulness outside of class and those who did not. Expressed as a percentage.<br>• The facilitators and barriers to practice will be listed according to the occurrence and documented using a bar chart. |

Table 1 continued

<table>
<tr><td colspan="3">SMART Goal # 4: The program completion rate of patients with ADHD diagnoses will increase by 20%.</td></tr>
<tr><td colspan="3"><ul><li>Upon discharge from the program. A chart review will be conducted to determine the reason for discharge.</li></ul></td></tr>
<tr><td>Data to be collected</td><td>Collection Process</td><td>Planned data analysis</td></tr>
<tr><td><ul><li>Demographics (initials, program start date, and diagnoses) of patients completing the intensive outpatient treatment program. With interest in ADHD subpopulation.</li><li>The number of weeks it took for a patient to complete the program.</li><li>Number of self-reported times mindfulness practice used outside of class.</li></ul></td><td><ul><li>PMHDNP student will collect the information.</li><li>Chart and spreadsheet review will be completed to collect the data.</li></ul></td><td><ul><li>The percentage of patients with ADHD who were able to complete the program in 6 weeks compared to the number of weeks needed for a patient without ADHD to complete the program.</li><li>Did patients who graduated use mindfulness outside of class?</li></ul></td></tr>
</table>