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Implementation of an Akathisia Scale Into the Mental Health Assessment to Screen for Early-Onset Akathisia

Heather Thompson

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IMPLEMENTATION OF AN AKATHISIA SCALE INTO THE MENTAL HEALTH
ASSESSMENT TO SCREEN FOR EARLY-ONSET AKATHISIA

by

Heather Thompson

A Doctoral Project
Submitted to the Graduate School,
the College of Nursing and Health Professions
and the School of Leadership and Advanced Nursing Practice
at The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Nursing Practice

Approved by:

Dr. Carolyn Coleman, Committee Chair
Dr. LaWanda Baskin, Committee Member

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ABSTRACT

The first phase in the management of mental illnesses requires an intimate understanding of the thorough side effects of the medications prescribed. The treatment of antipsychotics involves a unique approach. New technological shifts in the field of anti-psychotic medications have been revolutionized. While most anti-psychotic medications are capable of battling psychosis, the effects vary from medication to medication. The susceptibility of akathisia has significant consequences. Akathisia can be easily overlooked and passed off as irritability leading to misdiagnosis.

The purpose of the Doctor of Nursing Project (DNP) was to bring awareness to akathisia and the Barnes Akathisia Rating Scale (BARS). Patients taking anti-psychotics need an accurate tool to measure their baseline prior to starting anti-psychotics and an accurate to measure the side effects of anti-psychotics during treatment. The BARS scale is the solution to accurately measure akathisia symptoms.

The DNP project was conducted in an outpatient clinic in southern Mississippi. Four hundred thirty-six (436) patients were seen within a 30-day time frame. Of those 436 patients 27 patients presented with symptoms of akathisia. The healthcare providers at this clinic documented akathisia's symptoms using a narrative note or the Abnormal Involuntary Movement Scale (AIMS). This scale can mask akathisia symptoms because it does not distinguish between akathisia and tardive dyskinesia. The two side effects have very different treatments. It is important to rate the level of severity on abnormal movement-specific scales. The BARS Scale measures akathisia exclusively.

Participants in the DNP project were given a pre-test, education, and a post-test. The pre-test tested the knowledge of participants' awareness of akathisia, the BARS

scale, and how they currently document akathisia. The pre-test revealed that 60% of participants see akathisia on a weekly basis. Most participants documenting akathisia using a narrative note, while 20% used the AIMS scale to document akathisia. The education was given in a form of a PowerPoint®. The post-test was scenario-based patients and required the use of the BARS scale to rate the level of the severity of akathisia each patient presented with. Participants' post-tests were compared. The post-test revealed 80% of the participants answered the scenario-based questions similarly. The post-test proves that the BARS scale validity to measure akathisia.

The findings from this DNP project indicate that there is a need for an akathisia scale in an outpatient clinical setting. Research revealed that patients taking anti-psychotics are distressed due to their akathisia. First episode akathisia patient's experience thoughts of suicide (Salem, 2017). Patients usually stop taking their medications due to having thoughts of suicide induced by akathisia. The distress caused by the side effects of antipsychotics needs to be addressed. The BARS scale is easy to use tool to measure the baseline of akathisia symptoms and is a tool that can be used throughout the treatment of antipsychotic use. The BARS scale aids in the early detection and treatment of akathisia. Early treatment of akathisia lessens the patients' feelings of distress and increases the chances of medication compliance.

ACKNOWLEDGMENTS

I would like to thank my chair Dr. Carolyn Coleman and Dr. LaWanda Baskin for supporting my DNP project. I'd like to acknowledge Dr. Allison Hughes for being available to discuss my project concerns and overall offering me a great deal of knowledge to complete my DNP project successfully. Lastly, I'd like to acknowledge Ms. Sonia Adams for always being patient with me and readily assisting me with all my graduate needs and concerns.

DEDICATION

I would like to dedicate my doctoral project to my husband Darian Thompson, my mother Ophelia Blackledge, and my three children Hermonie, Halaina, and Darian Jr. for supporting and encouraging me to further my career. You all were so supportive and comforting during so many stressful days and I am so appreciative. Lastly, I would like to thank all the instructors I worked with over the last two and half years, because you all believed in me and gave me confidence, I needed to complete this program.

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LIST OF ABBREVIATIONS

<i>AIMS</i>	Abnormal Involuntary Movement Scale
<i>BARS</i>	Barnes Akathisia Rating Scale
<i>DNP</i>	Doctor of Nursing Practice
<i>EPS</i>	Extrapyramidal Symptoms
<i>HAS</i>	Hillside Akathisia Scale
<i>HCP</i>	Healthcare Professional
<i>NP</i>	Nurse Practitioner
<i>PICOT</i>	Patient, Intervention, Comparison, Outcome, Time
<i>PMHNP</i>	Psychiatric Mental Health Nurse Practitioner
<i>RN</i>	Registered Nurse
<i>SGA</i>	Second Generation Anti-psychotics

CHAPTER I - INTRODUCTION

While working many years in mental health when reviewing charts, it appeared routine to see that each patient had a history and physical exam along with an AIMS (Abnormal Involuntary Movement Scale) scale assessment. AIMS scale exclusively favors the measures for tardive dyskinesia. Tardive dyskinesia is a condition that affects the nervous system caused by the long-term use of neuroleptic/anti-psychotic medications. Throughout the years of caring for mental health patients' tardive dyskinesia was rarely seen in acute care settings or outpatient settings. Tardive dyskinesia was mostly seen in long-term care mental health facilities like a forensic hospital. Akathisia, however, was a more common side effect of antipsychotic use that was seen often. Akathisia is a feeling of muscle quivering, restlessness, and inability to sit still. Akathisia can be very distressing to the patient and can be misdiagnosed and passed off as agitation (Hirose, 2003). There should be a scale incorporated into the initial mental health assessment to measure the baseline symptoms of akathisia. The BARS (Barnes Akathisia Rating Scale) scale measures the severity of akathisia symptoms. This scale aids in the early detection and treatment of akathisia and rids the patient of distress, potential noncompliance with medication, and declining health.

Background and Significance

Akathisia is a common side effect of antipsychotics that can go unrecognized to the untrained eye and can be overlooked by a trained healthcare professional. It is important to be direct when asking patients questions about akathisia. Patients often feel inner restlessness or a sudden urge to move. They may be seen squirming or fidgeting intermittently. It is important to educate the patient on these side effects and follow up

with an akathisia questionnaire each visit. PHMNP and Psychiatrists can easily overlook akathisia due to a lack of objective findings.

The BARS scale was originally created thirty years ago and are one of the most underutilized akathisia scales created. Its' validity and reliability have been established worldwide. The Turkish created a version of the BARS scale to help with the diagnosis of akathisia and to provide an objective tool for researching akathisia (Bayram et al., 2017). The Turkish used five physicians and forty patients with schizophrenia who were taking anti-psychotics for their study. The results shown from each patient were positive for akathisia and the study rated the BARS scale as a reliable tool to use to measure akathisia (Bayram et al., 2017).

The AIMS scale is currently used to measure akathisia and tardive dyskinesia. The AIMS scale can mask symptoms of akathisia. The AIMS scale particularly favors tardive dyskinesia. The numerical value at the end of the AIMS scale does not distinguish which abnormal movement is rated. Both abnormal movements are induced by anti-psychotics but are treated very differently, for this reason, an akathisia scale should be used to rate akathisia accurately.

Problem Statement/Clinical Question (PICOT)

(P) In mental health patients ages, 18-64 taking antipsychotic medications, visiting a mental health clinic setting experiencing akathisia symptoms. (I) does use akathisia measuring scale to properly assess and rate the level of severity of akathisia. (C) compared to using an AIMS scale which favors tardive dyskinesia. (O) Offer earlier detection of akathisia symptoms.

Project Purpose

This research aims to assess akathisia in a clinical setting. Proper understanding of akathisia can lead to recognition, early detection, and treatment of akathisia. The study seeks to explain the severity and the issues related to this psychotropic drug-induced disorder. To assess the severity of akathisia, the clinician must first be familiar with the condition and be familiar with the akathisia scale to accurately measure its presentation. This research aims to bring recognition to the Barnes Akathisia Rating Scale (BARS). The BARS scale was created in 1989 and was revisited in 2003. This scale is the most accurate in comparison to the only other documented scale found to solely measure anti-psychotic induced akathisia, the Hillside Akathisia Scale (HAS). The BARS scale is very useful in systematically assessing patients with akathisia, rating their severity, and monitoring their change in symptoms.

Objective and Expected Outcomes

The objective outcomes are to teach healthcare providers about the Barnes Akathisia Rating Scale and bring awareness to the mental distress akathisia may cause to patients. The expected outcomes are to incorporate the Barnes Akathisia Rating Scale into the initial mental health assessment and revisit the scale for follow-up visits with patients that are taking anti-psychotics.

Theoretical Framework

Akathisia can take place days to weeks after the initial start of an anti-psychotic or after an increased dose of an anti-psychotic (Salem et al., 2017). Tardive dyskinesia usually occurs 1-3 months after the start of treatment (Salem et al., 2017). Currently, physicians, nurse practitioners, and physician assistants are conducting AIMS scores on

every mental health patient. Since AIMS measures abnormal movements and akathisia is considered an abnormal movement, akathisia measurements can be measured on numbers 5, 6, 8, 9, and 10 of the AIMS scales (Menzies & Farrell, 2002). These numbers on the AIMS scale measure extremity movements and global judgments, but in relation to tardive dyskinesia, not akathisia. The other questions focus on orofacial movements, trunk movements, and dental status which are symptoms of tardive dyskinesia. This scoring method does not solely address akathisia and can mask akathisia ratings.

Akathisia is a more common side effect seen today with the use of multiple second-generation anti-psychotics (Salem et al., 2017). Patients on more than one second-generation anti-psychotic had an increase of 34.2% vs 10.9% on experiencing akathisia (Salem et al., 2017). The BARS scale would be a more appropriate and more accurate approach to measuring akathisia symptoms and tracking the progression of decline in symptoms throughout treatment. The BARS scale is a simple solution to capturing akathisia symptoms. If akathisia symptoms go unnoticed it can lead to an emergency, especially since akathisia is related to increased thoughts of suicide and increased thoughts of aggression and violence (Salem et al., 2017). Anti-psychotics tend to cause more weight gain and thus contribute to cardiovascular disease in patients with schizophrenia. Patients with schizophrenia tend to have heart disease due to poor eating habits, sedentary lifestyles, and smoking.

DNP Essentials

DNP Essential III, Clinical Scholarship Analytical Methods for Evidence-Based Practice details the DNP graduates' role in assuring accountability of quality care and patient safety. This DNP essential allows DNP graduates to facilitate the skills of

organization-wide changes that are patient-centered (Spencer, 2019). DNP Essential III best describes this project because it supports quality care and patient safety. The implementation of the akathisia scale during the initial mental health assessment offers a baseline for each patient being started on an anti-psychotic. If the patient has any abnormal movement like a tic or tremor before starting an anti-psychotic this scale will rate the tremor as such and give a baseline rating as the patient presents before treatment. There will be no confusion on the level of severity of akathisia due to taking antipsychotic medication. When the patient begins psychotropic treatment, there will data to show when the patient's akathisia symptoms started, without giving a false rating or narrative. DNP Essential III suggests that the findings of evidence-based practice be used to improve healthcare outcomes (Spencer, 2019). The BARS scale will be used to detect and treat akathisia at its early stages. Implementing the BARS scale improves patient outcomes and decreases the length of time a patient could experience such debilitating side effects.

DNP Essential VI, Interprofessional Collaboration for Improving Patient and Population Health Outcomes enforces the need for patient care to be a team-based approach. This DNP essential exhibits how thorough effective communication and collaboration with patient care and patient outcomes are priority (Spencer, 2019). DNP Essential VI relates to this DNP project topic because it references a team-based approach. Patients can be cared for by multiple providers or may choose to switch providers. In doing so, through electronic charting multiple providers have access to patients' electronic medical records. Electronic charting allows for easy access to the patients' charts. Continuity of care is an important aspect to point out with this project.

Through the use of the BARS scale, it allows patient outcomes and improvement of akathisia symptoms to be easily transferred. The severity of akathisia last documented on the patient can be used as a resource for the level of severity of akathisia in the patient viewed by the new clinician. Through collaboration, providers can view the patient's progress of treatment with the use of the BARS scale.

Needs Assessment

The author conducted a needs assessment at a southern Mississippi behavioral health clinic. The clinic was proven to have a need for an akathisia project according to the data provided by the clinic's nurse practitioners. There were 436 patients seen by the provider within 30 days. Within the 30-day time frame, 27 of the 436 patients were reported to have akathisia symptoms. The patient's akathisia symptoms were recorded in a narrative note or using the AIMS scale. The AIMS scale revealed a numerical value that distinguished abnormal movement. The AIMS scale numerical value does not specify which abnormal movement is present. The BARS scale would be better in identifying the level of severity of akathisia symptoms without being masked by EPS other symptoms.

Synthesis of Evidence

Anti-psychotic induced akathisia is a truly relevant topic. Attention was first brought to akathisia in 1961 (Turk et al., 2018). The common side effect of akathisia can cause a stigmatizing effect on patients leading them to depression, medication noncompliance, and potential debilitating psychosis (Bjarke et al., 2020). Suicidality is related to akathisia symptoms as well. The supportive text notes that the first episode of akathisia patients had an increased risk of possible suicide (Bjarke et al., 2020). Abnormal movement symptoms were thought to decrease with the use of second-

generation antipsychotics (SGA) also known as atypical antipsychotics, but a substantial number of patients treated with atypical anti-psychotics still experience akathisia (Bjarke et al., 2020).

There are scales available to measure akathisia. The scales are not utilized to their full potential. Most clinicians are not aware that these scales exist. The BARS scale is a short but thorough scale that measures akathisia symptoms. This scale is easy to incorporate into daily assessments. The AIMS scale used during initial mental health assessment does not favor symptoms we see today with the use of atypical anti-psychotics. Adding the BARS scale would make a huge difference and impact the way clinical notes are viewed for patients that present with akathisia symptoms. The BARS scale would make comparing akathisia symptoms from a visit to visit easier. If clinicians alternated care, the BARS scale would allow transparency of akathisia symptoms from the previous visit, making it easier to make changes to medications seamlessly.

Akathisia and restless leg syndrome share some similarities. Restless leg syndrome is characterized by an irritable sensation in the legs that is relieved by movement and occurs more often in the late afternoon or evening (Turk et al., 2020). Restless and crawling sensations can also be a symptom of akathisia except it would not fluctuate like restless leg syndrome (Turk et al., 2020). There are symptoms that persist in both disorders that make the two easily confused. The clinician must be able to distinguish the two disorders to properly treat the patient. The BARS scale could be helpful for use of rating akathisia symptoms and distinguishing the difference between akathisia and restless leg syndrome.

Focused Topics and Evidence-Based Findings

The BARS scale is centered around akathisia symptoms. It is an easy tool to add to an initial assessment to get a baseline of akathisia symptoms. An AIMS scale exclusively measures tardive dyskinesia. Although an AIMS scale asks a few questions that pertain to abnormal movement in the extremities, this does not suffice for a commonly overlooked symptom like akathisia. According to Hirose, there are two major reasons why akathisia may be overlooked and underdiagnosed (2003). The first reason is the inability to fulfill diagnostic criteria for akathisia and the second reason is conditions that do not fulfill diagnostic criteria but can still benefit from anti-akathisia interventions that are underdiagnosed (Hirose, 2003). Clinicians are less worried about akathisia since atypical anti-psychotics are said to produce fewer extrapyramidal side effects (EPS) (Hirose, 2003). Akathisia and other EPS side effects still exist with the use of atypical anti-psychotics. Literature notes that of the six anti-psychotics available for prescription, risperidone and olanzapine are the two that show lower signs of EPS. These symptoms can worsen when the doses are increased (Farah, 2013). Farah notes that the biggest concern with akathisia comes from the atypical anti-psychotic, aripiprazole (Farah, 2013). It is noted that most akathisia patients do not volunteer the information of inner restlessness until the term is explained to them. Motor restlessness is objectively seen and can be rated as such, but inner restlessness is subjective, and the patient would need to be questioned by the clinician for confirmation (Hirose, 2003).

Rationale-Framework, Models, Concepts/Theories

The problem persists that akathisia is a distressing side effect of anti-psychotic use that can lead to thoughts of suicide and non-compliance with medication. If clinicians

assess akathisia symptoms early on, this problem can be addressed and eliminated. The way to eliminate this problem is to add an akathisia scale to the initial mental health assessment and future mental health assessments. The AIMS score is captured on the initial mental health visit. The AIMS scale measures for EPS symptoms like tardive dyskinesia, not exclusively akathisia. The AIMS score may mask the true rating of akathisia. If the BARS scale was present to assess and rate akathisia, patients' symptoms would be detected and treated sooner which will eliminate the distressing feeling patients have and eliminate or decrease suicidal thoughts related to impending restlessness related to akathisia.

Summary

In summary, akathisia is a reversible movement disorder that when diagnosed early can save the patient from having feelings of irritability, distress, and suicidal thoughts (Salem et al., 2017). Early diagnosis will also aid in medication compliance. Akathisia is one of the most common side-effects of antipsychotic medications and can easily be passed off as agitation when presented to a clinician unfamiliar with the disorder (Salem et al., 2017). The BARS scale is an easy rating scale used to measure akathisia. The scale is short, which is a great incentive to clinicians that are often on a time restraint. The use of the BARS scale is an easy effective addition to the patients' assessment. The BARS scale is an asset to patients' healthcare and well-being when antipsychotics are started, or anti-psychotic doses are increased. The BARS scale is an easy tool to measure a change in the patient leading to the detection of akathisia. Chapter I provided the introduction, background, and significance, project purpose, objective and expected outcomes, theoretical framework, needs assessment, synthesis of evidence,

focused topics and evidenced-based findings, and rationale framework. Chapter II will discuss the methods used to complete this project.

CHAPTER II – METHODS

The purpose of this Doctor of Nursing Practice (DNP) project was to bring awareness to akathisia and the Barnes Akathisia Rating Scale (BARS). The use of the BARS scale would accurately measure akathisia and offer a numerical value that would range from 0-9. Zero would be no signs of akathisia and the number nine would indicate severe akathisia. This scale would be used at the start of any anti-psychotic medication treatment and would also be used at follow-up visits. The use of the BARS scale ultimately improves the accuracy of the patient's akathisia symptoms. The BARS scale offers transparency in the level/rate of the patient presenting with akathisia.

Setting

The DNP Project was conducted in a southern behavioral health Mississippi clinic located in Poplarville, Mississippi. The clinic sees more than four hundred patients in a 30-day span. The clinic is staffed by two nurse practitioners and two nurses. The outpatient clinic sees a host of patients beginning at the age of five years old and across the lifespan. The outpatient clinic provides integrated mental health and behavioral health services. The number of patients experiencing akathisia in this clinic presented a great opportunity to offer information about akathisia and an akathisia rating scale.

Population/Sampling

The population of interest consists of mental health patients with schizophrenia diagnoses. The population included patients ages 18-64. Each of these patients were prescribed anti-psychotic medication. The study excluded adolescent and geriatric patients. Out of the four hundred thirty-six (436) patients seen in a thirty (30) day span, twenty-seven (27) patients of those patients experienced akathisia.

Data Collection, Procedures, and Design

A scenario-based case study focused on the literature was performed to classify trials of atypical anti-psychotics affecting patients ages 18-64 with schizophrenia or associated conditions (e.g., schizoaffective disorder). The project involved randomized scenario-based case studies. The scenario-based case study included four detailed questions related to akathisia presentation in a clinical setting. Data on the evolving BARS akathisia scale were included. A pre-test was provided to the clinical staff. After the pre-test, the staff was educated on akathisia and its presentation, along with being educated on the BARS scale. A post-test was given. The test provided to participants determined the integrity and validity of the BARS scale. All consents and data collection were exchanged through a secure email. Most participants chose to print their emails and hand score each question, while other participants chose to digitally answer their questions. Each email was sent separately and privately.

Ethical Considerations

This project was submitted to The University of Southern Mississippi IRB (Protocol # 21-204) for approval. This project did not include the study of any human subjects; therefore, there were no direct violations of ethical principles. The sole purpose of this project was to bring awareness to akathisia and implement an akathisia rating scale.

Data Analysis

Data from this project included a pre-test, which tested the knowledge of the topic with the participants involved. The pre-test included questions about how the participants narrate their patients' side effects to antipsychotics. The participants were then educated

on the topic and its' purpose. The education was given to participants in the form of a PowerPoint®. A post-test was given. The participants' post-test results were compared. Scores were analyzed using simple mathematical addition.

Summary

After the completion of the project, the test was scored in a secure private room by the doctoral student. Each test was carefully read and measured by the doctoral student. The results of the post-test were discussed with the nurses and nurse practitioners. The data was protected and remained safely stored. The results are discussed in Chapter III.

CHAPTER III - RESULTS

The doctoral project met its goal of implementing and integrating the Barnes Akathisia Rating Scale into the mental health assessment. The participants agreed that the BARS scale was a more accurate tool to measure akathisia. This doctoral project also improved the knowledge of akathisia symptoms among the nurses working at this clinic. The nurse practitioners encouraged the use of the BARS scale as a baseline to measure for akathisia symptoms, and as a tool to use throughout the treatment of antipsychotic use.

Analysis of Data

A secure email was used for participants. In this email, participants were given an invitation to participate in the DNP project. In addition to the initial invitation, consent to participate in the DNP project was given as well. The participants had to sign the consent form and email the consent back to the secure email address. The participants were given a pre-test. The pre-test tested the participant's knowledge of akathisia, tardive dyskinesia, and their presentation. A question related to the BARS scale was also included in the pre-test. The pre-test was given through a secure email and sent back through secure email. Education was provided via PowerPoint® and sent through secure email. Participants were given five days to review the education provided on akathisia and the Barnes Akathisia Rating Scale. After the five days, a post-test was given. The post-test was a scenario-based clinical study given to participants. The post-test provided included a total of four scenario-based questions. These questions were sent along with the Barnes Akathisia Rating Scale. The scale ensured that all participants had all resources needed to

accurately rate their patient's severity of akathisia. Participants were to read each question and rate the level of severity for each scenario-based patient.

Results took a week to come in. There were two occasions where there was data missing. Two participants did not read the directions carefully and did not use the BARS scale as directed. These participants were encouraged to re-read the directions and re-take their post-test using the BARS scale and resend their results via the secure email.

Participants were compliant with resending emails and using the BARS scale to rate the severity of akathisia.

Results of the pretest revealed that 60% of participants see akathisia on a weekly basis. All participants knew what akathisia was, most explained akathisia in a note while 20% used AIMS to measure akathisia. The post-test revealed 80% of participants answered the questions similarly. The post-test proves that the BARS scale is a valid tool that can be used to accurately measure and rate the level of severity for akathisia.

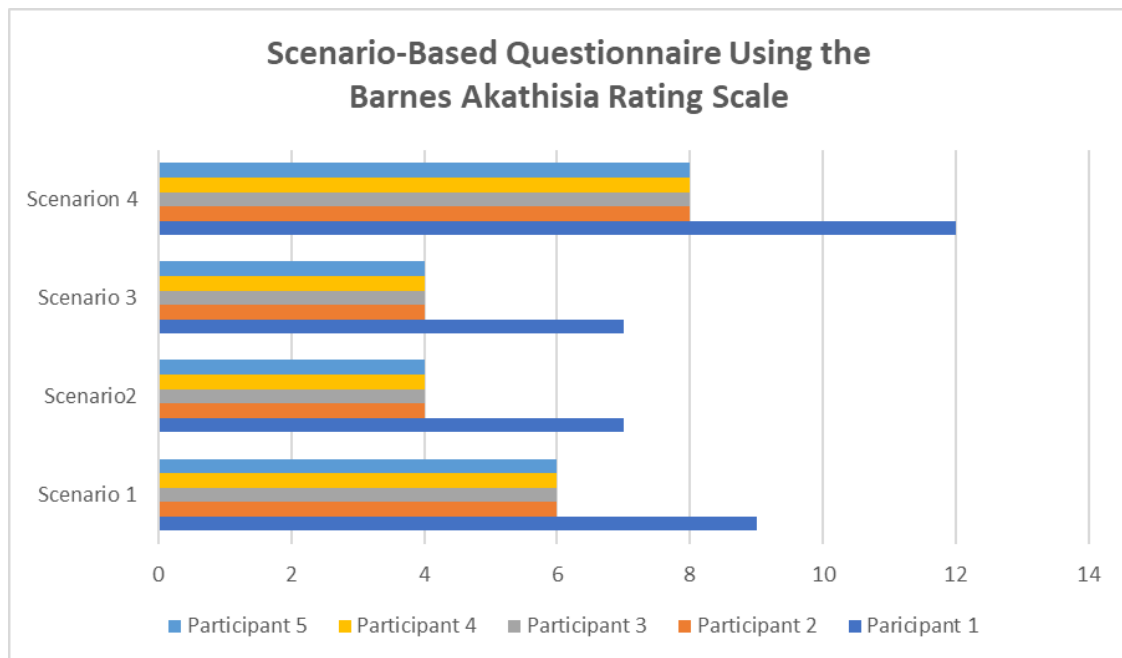


Figure 1. Scenario-Based Questionnaire Using the Barnes Akathisia Rating Scale.

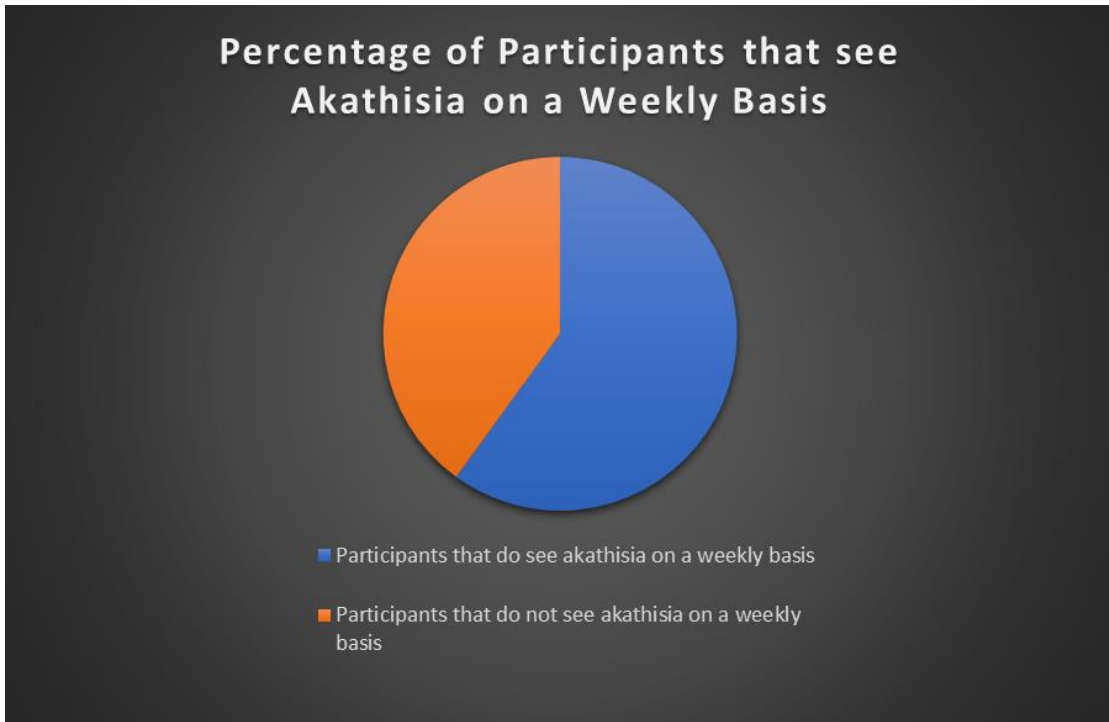


Figure 2. Percentage of Participants that See Akathisia on a Weekly Basis.

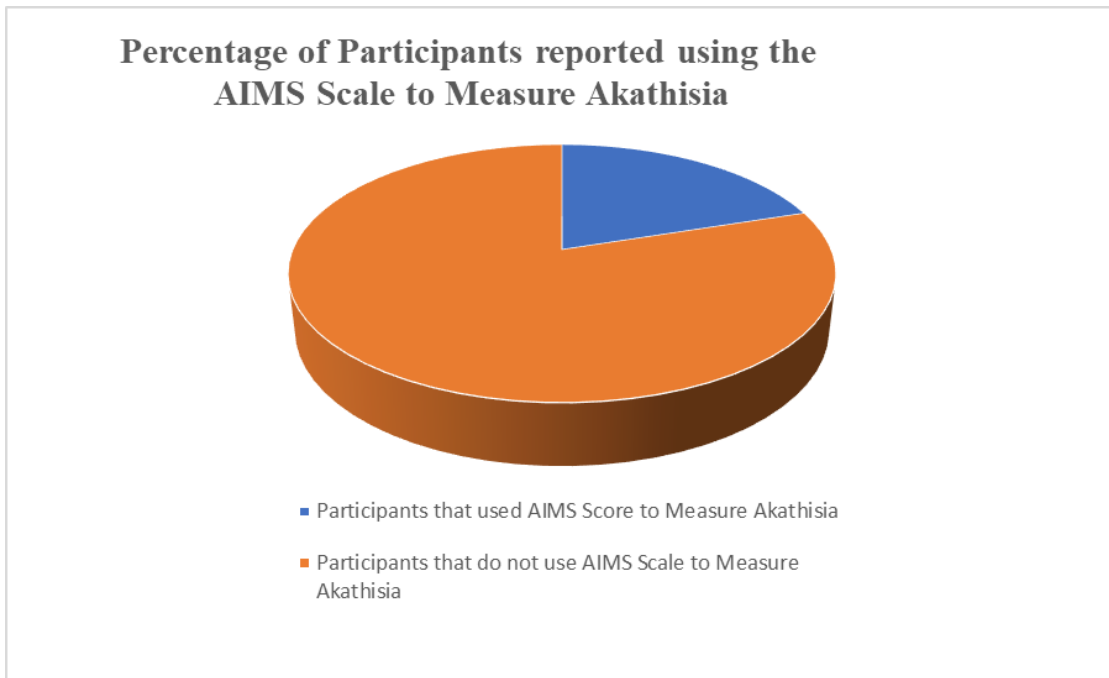


Figure 3. Percentage of Participants Reported Using the AIMS Scale to Measure Akathisia.

Summary

The comparison of post-test results revealed that the Barnes Akathisia Rating Scale (BARS) is an accurate tool. The tool measures akathisia because most participants answered their scenario-based questions the same. This proves that the measuring tool is a reliable tool to measure akathisia.

CHAPTER IV – DISCUSSION

Through implementing an akathisia scale into the mental health assessment, the akathisia scale offered a baseline of the patients' level of severity of akathisia. The participants in the study mostly rated the scenario-based patient questionnaire similarly. These scores indicated that the use of the BARS scale would be successful and offer depth and accuracy to the patients' diagnosis and treatment plan. Results revealed four out of five participants answered the scenario-based questions similarly. Participants rating their patient scenarios similarly prove that the BARS scale is effective in rating akathisia. Offering a baseline of akathisia symptoms can be difficult. Proper education of the BARS scale and its' use can allow for transparent symptoms of akathisia between follow-up visits and/or change in healthcare providers. Healthcare providers agreed that this addition to their assessment would offer an easier and accurate way to share data on patients exhibiting akathisia.

Akathisia is one of the most distressing symptoms associated with antipsychotic medication use. Some patients state the feeling of akathisia is an indescribable feeling they cannot control. Those patients experiencing akathisia, experience an inability to sit still and a constant urge to move (Salem et al., 2017). The feeling of inner restlessness causes the patient to rock while standing or sitting and to constantly move their feet. Unlike tardive dyskinesia, akathisia mostly deals with lower extremity movement. Tardive dyskinesia can affect the orofacial muscles, hands, and feet. Akathisia and tardive dyskinesia are both EPS symptoms, these two side effects are so common. Different scales should be used to measure akathisia and tardive dyskinesia. With the use

of different rating scales for akathisia and tardive dyskinesia, there will be no confusion in the level of severity for each.

Healthcare Professional Role Change (HCP) and Future Role Implications

The author's role as a healthcare provider changed from being a bedside nurse and student to making decisions that can alter medication doses, rendering a new prescription, or decrease/increase in medication. It takes skill and expertise to write prescriptions. As an aspiring PMNP (psychiatric mental health nurse practitioner), a combination of higher education and hands-on clinical learning has eased the anxiety of transitioning quite a bit. Many PMNP has similar responsibilities as a psychiatrist. Diagnosing, treating, and prescribing psychotropic medications are all a part of treating mental health patients. The author has grown comfortable in her current role as a staff RN (registered nurse). She has mastered the daily tasks of nursing and has developed observation skills as well as the skill to act on instinct. The author currently works twelve-hour shifts three days a week. A Monday through Friday job as a PMHNP in an outpatient setting will be a significant change. Sitting, talking, and listening to patients in a clinical setting for a fifteen-minute interval is a difficult task. The fifteen-minute intervals will include charting and prescribing as well. The author's goal is to provide the best care for every patient all while being an efficient and productive provider.

Interpretation

The BARS scale was used in the implementation of this DNP project because it helps rate the level of severity of akathisia symptoms. The impact this project has on the mental health population is great. This project brings awareness to the way akathisia is documented. The BARS scale allows for accurate measurement of akathisia without

masking the symptoms. Akathisia can be easily missed or passed off as irritability or even misdiagnosed as restless leg syndrome. Most results from this DNP study were answered similarly. Four out of five participants had the same answers. Outcomes may have been different because the participant may have misread the instructions. Before starting this project participants were charting a narrative note to describe the patients' symptoms. Other providers were using the AIMS scale to measure akathisia symptoms. Using the BARS scale offers transparency to the level of severity of the patient's symptoms, focusing on akathisia and no other symptom or side effect. In narrative notes, a way of wording may be confusing or misinterpreted. With the use of the AIMS scale akathisia symptoms can be masked as well due to other questions that pertain to tardive dyskinesia. Through the use of the BARS scale the level of severity of akathisia is more precise. The scale offers a range in severity of akathisia symptoms. If the results of this project were compared to the results of the Turkish BARS project, it would be comparable. The Turkish BARS project shows high reliability to the use of the BARS akathisia scale (Bayram et al., 2017). Through the use of the BARS scale patients' akathisia symptoms can be rated easily according to their level of severity. By bringing awareness to the BARS scale and its purpose, healthcare providers can measure akathisia symptoms earlier and throughout treatment. Patients will experience shorter periods of distress with the use of the BARS scale, which will aid in medication compliance ultimately stabilizing the patients' mental health.

Limitations and Barriers

Limitations to this DNP study included sample size and limitation on using one facility. If there were more participants, the outcomes may have differed. If an additional

clinic could have been used to compare patients seen with akathisia, the need for an akathisia scale may have differed. In other clinic's there may have been some form of an akathisia rating scale used that was not incorporated in the clinic where this DNP project was performed. Many things exist that could have altered the study. Some bias that may present may relate to using the AIMS scale to measure akathisia. The author firmly believes that the AIMS scale masks akathisia symptoms. The AIMS scale particularly favors tardive dyskinesia. The two abnormal movements are very different in characterization and should be rated separately on different forms of abnormal movement scales.

Barriers to this study include time constraints and how long the author could hold the participants' attention with this project. The author had to remind each participant to answer their email in a timely fashion. Some participants were eager to finish while other participants needed constant reminders to do so. Other barriers included the inability to control the participants from searching for data on akathisia during the pretest time frame. One participant included that they searched for information to answer one of the questions, which was prohibited.

Conclusions

At the end of this project, participants appreciated the information given on akathisia and the BARS scale. Participants felt that the BARS scale was much more relatable to akathisia than the AIMS scale. Akathisia is a known side effect of antipsychotics, yet participants did not know to which extent patients were suffering. All participants involved in this project agreed that the BARS scale can easily be incorporated into each mental health assessment of a patient being started on an

antipsychotic. Participants also agreed the BARS scale is a great tool to use to measure akathisia throughout antipsychotic medication treatment.

The sustainability of this project is great in comparison to the Turkish akathisia project. The conclusion of the DNP project ended with great percentages. Everyone that participated in the project had similar answers, which proves that the BARS scale is easy to learn and incorporate in mental health assessments. With such a large percentage of participants answering the questions similarly, it makes the project impactful and easily understood. The goal of incorporating the BARS scale was to impact health care without making it a nuisance to incorporate another document into the mental health assessment. The BARS scale is an asset. Detecting akathisia at its' earliest stages before it becomes debilitating to the patient is the priority.

The BARS scale will be incorporated into the mental health assessments of patients taking anti-psychotics. The author will share the information about the BARS scale with those she works with through verbal conversation and handouts. Through discussion, the author will explain to other providers that while researching an akathisia rating scale that providers caring for patients with akathisia did not know the extent to which their patients were suffering. The feeling of internal restlessness leads some patients to have thoughts of suicide. The uncomfortable feeling akathisia induces is a huge dilemma that has gone overlooked for too long. Providers need to be aware of the extent of the mental debilitating factors that can take place with the use of antipsychotics.

If anything could be done differently in this project, it would be to create a new akathisia scale, incorporating more subjective data questions for the patient. One that would probably be like the BARS scale with more descriptive symptoms and side effect

choices. More time could have been spent with the participants, but participants' schedules were conflicting. An in-person educational presentation on akathisia would have been ideal, but due to covid, the author felt a contactless free presentation would be more appropriate and safer for everyone involved.

APPENDIX A – IRB Approval Letter

Office of
Research Integrity



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NOTICE OF INSTITUTIONAL REVIEW BOARD ACTION

The project below has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services regulations (45 CFR Part 46), and University Policy to ensure:

- The risks to subjects are minimized and reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered involving risks to subjects must be reported immediately. Problems should be reported to ORI via the Incident template on Cayuse IRB.
- The period of approval is twelve months. An application for renewal must be submitted for projects exceeding twelve months.

PROTOCOL NUMBER: IRB-21-204

PROJECT TITLE: Implementing An Akathisia Scale Into The Initial Mental Health Assessment To Screen For Early Onset Akathisia

SCHOOL/PROGRAM: Leadership & Advanced Nursing

RESEARCHER(S): Heather Thompson, Carolyn Coleman

IRB COMMITTEE ACTION: Approved

CATEGORY: Expedited

7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

PERIOD OF APPROVAL: June 21, 2021

A handwritten signature in cursive script that reads "Donald Sacco".

Donald Sacco, Ph.D.
Institutional Review Board Chairperson

APPENDIX B – Barnes Akathisia Rate Scale

Name: _____

Date: _____

Instructions: Patients should be observed while they are seated, and then standing while engaged in neutral conversation (for a minimum of two minutes in each position). Symptoms observed in other situations, for example, while engaged in activity on the ward, may also be rated. Subsequently, the subjective phenomena should be elicited by direct questioning.

Objective

Normal, occasional fidgety movements of the limbs

- 0 Presence of characteristic restless movements: shuffling or tramping movements of the legs/feet, or swinging of one leg while sitting, *and/or* rocking from foot to foot or “walking on the spot” when standing, but movements present for less than half the time observed
- 1 Observed phenomena, as described in (1) above, which are present for at least half the observation period
- 2 The patient is constantly engaged in characteristic restless movements, *and/or* cannot remain seated or standing without walking or pacing, during the time observed

Subjective

Awareness of restlessness

- 0 Absence of inner restlessness
- 1 Non-specific sense of inner restlessness
- 2 The patient is aware of an inability to keep the legs still, or a desire to move the legs, *and/or* complains of inner restlessness aggravated specifically by being required to a standstill
- 3 Awareness of intense compulsion to move most of the time *and/or* reports strong desire to walk or pace most of the time

Distress related to restlessness

- 0 No distress
- 1 Mild
- 2 Moderate
- 3 Severe

Global Clinical Assessment of Akathisia

- 0** *Absent.* No evidence of awareness of restlessness. Observation of characteristic movements of akathisia in the absence of a subjective report of inner restlessness or compulsive desire to move the legs should be classified as pseudoakathisia
- 1** *Questionable.* Non-specific inner tension and fidgety movements
- 2** *Mild akathisia.* Awareness of restlessness in the legs *and/or* inner restlessness is worse when required to stand still. Fidgety movements are present, but characteristic restless movements of akathisia are not necessarily observed. The condition causes little or no distress.
- 3** *Moderate akathisia.* Awareness of restlessness as described for mild akathisia above, combined with characteristic restless movements such as rocking from foot to foot when standing. A patient finds the condition distressing
- 4** *Marked akathisia.* The subjective experience of restlessness includes a compulsive desire to walk or pace. However, the patient can remain seated for at least five minutes. The condition is obviously distressing.
- 5** *Severe akathisia.* The patient reports a strong compulsion to pace up and down most of the time. Unable to sit or lie down for more than a few minutes. Constant restlessness is associated with intense distress and insomnia.

Scoring the Barnes Akathisia Rating Scale (BARS)

The Barnes Akathisia Rating Scale is scored as follows:

Objective Akathisia, Subjective Awareness of Restlessness, and Subjective Distress Related to Restlessness are rated on a 4-point scale from 0 – 3 and are summed yielding a total score ranging from 0 to 9.

The Global Clinical Assessment of Akathisia uses a 5-point scale ranging from 0 – 4.

(Barnes, 1989, pp. 672-767).

APPENDIX C – Akathisia Survey

This study has been approved by USM's IRB.

Protocol number: XXX

You are Invited to Participate

Hello everyone,

My name is Heather Thompson RN, BSN I am a DNP student at The University of Southern Mississippi. I am doing an evidence-based practice research intervention. My intervention will include a scenario-based pretest, education on an akathisia scale, and a scenario-based post-test.

Purpose: The purpose of my project is to bring awareness to akathisia and the need for an akathisia rating scale. This allows for easy communication of akathisia symptoms between providers. The scale brings accuracy to the level of severity of akathisia symptoms before and during treatment.

Description of Study: The study will include healthcare providers at a Southeastern Mississippi Behavioral Clinic. The providers will be given a scenario-based case study to test their knowledge of akathisia and the way they narrate their akathisia findings. Next, the healthcare providers will be educated on akathisia and a rating scale that will offer a baseline numerical scale for akathisia. A scenario-based case study will be given as a post-test to implement the akath2isia rating scale and test the knowledge of the staff.

Benefits: Healthcare providers will benefit from awareness of akathisia and its scale by having the ability to detect and rate akathisia accurately. This will lead to early detection and treatment. The akathisia scale will offer transparency of akathisia symptoms between visits. The level of severity of akathisia symptoms will be straightforward and to the point.

Confidentiality: Confidentiality will be maintained through a private email.

Survey

1. Do you recognize the physical symptoms of akathisia?
 - a. How do you document your findings of akathisia symptoms?
2. Do you know what a BARS (Barnes Akathisia Rating Scale) scale are?
3. How is akathisia evaluated in current patients?
4. How do you measure the impact of treatment from a visit to a visit?
5. How often do you see akathisia in your clinic?

APPENDIX D – Scenario-Based Questionnaire Using the Barnes Akathisia Rating Scale

Scenario #1

A 35-year-old female comes into the office. She is taking Zyprexa 10mg daily. The patient walks with a steady gait, when the patient stops walking patients' feet continue to move in a mild stepping manner. Upon sitting the patient has involuntary shaking of the lower extremities. The patient states, "I noticed my leg shaking when I sit but I did not think much of it, I feel fine." The patient appears to have mild involuntary leg tremors. How would you explain this patient's condition and rate the level of severity using the Barnes Akathisia Rating Scale (BARS)?

Scenario #2

A 20-year-old male has started taking clozapine 12.5mg daily. At the patient's next visit clozapine dose was increased to 25mg. Over the next few weeks, the patient's dose gradually increased to 100mg. The patient reports, "I feel restless, I want to relax but I can't." The healthcare provider has the patient rate the severity of their symptoms on a scale of 1-10. One being nearly no symptoms at all and ten being unbearable symptoms. The patient states, "If this does not stop, I will not continue taking clozapine. I rate this feeling of restlessness as an 8/10." The patient has facial grimacing and appears irritable. What would you rate the patient's akathisia score on the Barnes Akathisia Rating Scale (BARS) akathisia scale?

Scenario #3

A 45- year-old female taking Vraylar 1.5mg daily. Upon taking a seat in the provider's office the patient appears uncomfortable, with a mild right leg tremor. The patient reports, "I feel fine, my leg tremor doesn't bother me, the medication is working great." The patient rates her leg tremor on a scale of 1-10 in severity as a 3. How would you rate the severity of the patient's symptoms based on the Barnes Akathisia Rating Scale (BARS)?

Scenario #4

A 33-year-old-male presents to his doctor's visit with feelings of increased agitation and irritability. The patient's current medication is Abilify 10mg daily, and Clonidine 0.2mg nightly. The patient reports sleeping well but has a mild foot tremor during the night that worsens when he awakens. The patient states, the tremors are bothering him so much so that he would like medication to help him fix this problem. Rate the patient's level of severity of akathisia using the Barnes Akathisia Rating Scale (BARS).

APPENDIX E – Implementation of an Akathisia Scale into the Initial Mental Health
Assessment PowerPoint® Presentation

Implementation of an Akathisia Scale into the Initial Mental Health Assessment

By: Heather Thompson, BSN
FPMHNP-DNP Student at University of Southern Mississippi

What is Akathisia



Akathisia is a commonly overlooked side effect of atypical anti-psychotics.



Akathisia is a feeling of muscle quivering, restlessness, and inability to sit still.



Akathisia can be very distressing to the patient and can be misdiagnosed and passed off as agitation (Hirose, 2003).

What is Akathisia



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Barnes Akathisia Rating Scale (BARS)

The BARS scale is a simple solution to capturing akathisia symptoms.

The BARS scale measures the patient objectively and subjectively.

The score can range from 0 (absence of akathisia)-9 (severe akathisia)

BARS Scale

Name: _____ Date: _____

Barnes Akathisia Rating Scale (BARS)

Instructions: Patient should be observed while they are seated and free-standing with caregiver in mental hospital or a number of observations at home. Scoring observed in home situations for ratings should be weighted 20% of the total. They should visit. Subsequently, the subjective presentation should be checked by direct questioning.

Objective

- 0: Absence of involuntary rhythmic movements of the limbs
- 1: Presence of the involuntary rhythmic movements, shuffling or tramping movements of the legs feet, or walking in a way that is rhythmic and jerky, but not fast or fast or "locking on the spot" when standing. Not accompanied by any other signs of akathisia.
- 2: Observed phenomena, as described in 1-2 above, which are present for at least half the observation period.
- 3: Patient is constantly engaged in the involuntary rhythmic movements, and/or has the ability to remain seated in standing without walking or pacing during the time observed.

Subjective

Assessment of restlessness

- 0: Absence of any restlessness
- 1: The patient reports a need for restlessness
- 2: The patient reports a need to keep the legs still, or a desire to move the legs, and/or complaints of some other unpleasant experience for which restlessness is rated 0-1.
- 3: Assessment of other comparison to move most of the time and/or reports strong desire to walk or pace most of the time.

Other related to restlessness

- 0: No distress
- 1: Mild
- 2: Moderate
- 3: Severe

Clinical Clinical Assessment of Akathisia

- 0: Absent: No evidence of presence of restlessness. Observation of characteristic movements of akathisia in the presence of a subjective report of restlessness or restlessness desire to move the legs and/or the reported as possible/without.
- 1: Questionable: Suspicious from clinical and history indications.
- 2: Mild restlessness: Absence of restlessness in the 10-15 minute restlessness areas when required to stand still. Flurry movements present, but characteristic rhythmic movements of akathisia not observed.
- 3: Moderate restlessness: Absence of restlessness as described for mild restlessness areas, continued pathologic/rhythmic rhythmic movements such as walking from foot to foot when standing. Patient looks the typical akathisia.
- 4: Marked restlessness: Subjective experience of restlessness includes a continuous desire to walk or pace. Patient is able to remain seated for at least the evening. The condition is clinically disturbing.
- 5: Severe restlessness: The patient reports a strong compulsion to pace up and down most of the time (often 10-15 min or longer) for much of a day. Complaint restlessness when in extended sitting, standing, and walking.

Scoring the Barnes Akathisia Rating Scale (BARS)

The Barnes Akathisia Rating Scale is scored as follows:

Objective Restlessness, Subjective Assessment of Restlessness and Subjective Restlessness

Restless to Restlessness are rated on a 3-point scale from 0-2 and are summed yielding a total score ranging from 0-6.

The Global Clinical Assessment of Akathisia score is a 3-point scale ranging from 0-4.

(Citation: Barnes TR. A Rating Scale for Drug-Induced Restlessness. British Journal of Psychiatry 100:472-476, 1984)

When do you use the BARS Scale?

The BARS scale should be used as a baseline assessment during the initial mental health visit.

The BARS scale should also be used if you encounter a new patient that was placed on anti-psychotics prior to their initial visit with the provider.

The BARS scale should be used when prescribing anti-psychotics.

If the patient should present with akathisia symptoms, the provider should use the BARS scale to measure the severity of akathisia and use the scale to track the patient's progression of akathisia rating while receiving treatment.

Fun Fact

The BARS scale was created in 1989.

It is an underutilized scale that helps measure the presentation of akathisia.

It is an easy-to-use tool.

The BARS scale is a precise measurement of akathisia severity.

Adding this scale to your assessment allow's transparency to the level of akathisia the patient is experiencing.

References

- Hirose, S. (2003). The causes of underdiagnosing akathisia. *Schizophrenia Bulletin*, 29(3), 547–558. Retrieved August 28, 2020, from <https://doi.org/10.1093/oxfordjournals.schbul.a007027>

REFERENCES

- Barnes, T.R. (1989). A rating scale for drug-induced akathisia. *British Journal of Psychiatry*, *154*, 672-676.
- Bayram, E., Çotur Levent, H., Tezcan, S., Kuzu, M., & Akbostancı, M. (2017). Reliability and validity of the turkish version of the Barnes akathisia rating scale. *Turkish Journal of Neurology*, *23*(2), 56–59. <https://doi.org/10.4274/tnd.37043>
- Bjarke, J., Gjerde, H., Løberg, E.-M., Jørgensen, H. A., Kroken, R. A., & Johnsen, E. (2020). M47. akathisia and atypical antipsychotics: Exploring associations to suicidality and agitation. *Schizophrenia Bulletin*, *46*(Supplement_1), S151–S152. <https://doi.org/10.1093/schbul/sbaa030.359>
- Farah, A. (2013). Atypicality of atypical antipsychotics revisited. *Current Psychiatry Reviews*, *9*(4), 316–324. <https://doi.org/10.2174/15734005113096660009>
- Hirose, S. (2003). The causes of underdiagnosing akathisia. *Schizophrenia Bulletin*, *29*(3), 547–558. <https://doi.org/10.1093/oxfordjournals.schbul.a007027>
- Menzies, V., & Farrell, S. P. (2002). Schizophrenia, tardive dyskinesia, and the abnormal involuntary movement scale (aims). *Journal of the American Psychiatric Nurses Association*, *8*(2), 51–56. <https://doi.org/10.1067/mpn.2002.124918>
- Salem, H., Nagpal, C., Pigott, T., & Teixeira, A. (2017). Revisiting antipsychotic-induced akathisia: Current issues and prospective challenges. *Current Neuropharmacology*, *15*(5). <https://doi.org/10.2174/1570159x14666161208153644>

Spencer, T. (2019). The DNP project—the essentials. In *Leadership and systems improvement for the DNP*. Springer Publishing Company.

<https://doi.org/10.1891/9780826188632.0012>

Türk, B., Gündüz, A., Metin, S., Metin, B., Karadeniz, D., & Kızıltan, M. E. (2018). Comparisons of akathisia and restless legs syndrome: An electrophysiologic study. *Turkish Journal of Neurology*, 24(4), 308–312.

<https://doi.org/10.4274/tnd.92679>