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FREQUENCY OF CIWA SCORING IN PATIENTS WITH ALCOHOL DEPENDENCE IN A MENTAL HEALTH SETTING

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FREQUENCY OF CIWA SCORING IN PATIENTS WITH ALCOHOL
DEPENDENCE
IN A MENTAL HEALTH SETTING

A Scholarly Project Submitted to the Graduate School
in Partial Fulfillment of the Requirements
for the Degree of
Doctor of Nursing Practice

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October 2023

FREQUENCY OF CIWA SCORING IN PATIENTS WITH ALCOHOL DEPENDENCE IN A MENTAL HEALTH SETTING

An Abstract of the Scholarly Project by
Heather McManis

The purpose of this quality improvement project was to assess the knowledge and attitudes of nursing staff toward assessing patients diagnosed with alcohol dependence who are detoxing from alcohol in a mental health facility. An educational intervention was done with nursing staff to assess their knowledge of the Clinical Institute Withdrawal Assessment for Alcohol (CIWA) scale and to stress the importance of frequent and accurate use of the scale. Data was collected for three months before the educational intervention and three months after the educational intervention on the total number of patients admitted to the facility with a diagnosis of alcohol dependence. The number of alcohol related withdrawal seizures decreased as well as the number of patients transferred to the ER. This project supports adequate training of nursing staff on frequent and accurate CIW scoring to improve patient outcomes and nursing satisfaction.

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Chapter I

Introduction/Purpose

The purpose of this scholarly project was to assess the frequency and use of the Clinical Institute Withdrawal Assessment (CIWA) tool in a mental health setting for patients admitted with an ICD 10 code of alcohol dependence. Detoxing patients from alcohol dependence can become complicated if not managed appropriately or effectively. Detoxing protocols are different in each clinical setting. The most common assessment tool administered to assess withdrawal is the CIWA-Ar. This assessment tool assists nursing in screening the patient and administering medication based on the score assigned. The author of this project assessed and guided nursing staff on the frequency and accuracy of CIWA scoring and resulted in decreased adverse events during detox. The purpose of assessing the frequency was to improve safety detoxing protocols for the client and to implement appropriate changes.

Background

The CIWA scale assesses agitation, anxiety, auditory disturbances, headache, nausea, vomiting, orientation, sweating, tactile disturbance, tremors, and visual disturbance (Bacon et al., 2016). Frequent assessment of patients in alcohol withdrawal in the inpatient setting is important in assisting and aiding in the relief of alcohol detox symptoms. Many different scales have assisted in alcohol detox. The frequency in which

these scales are being utilized can decrease adverse events such as seizures, placement within the Intensive Care Unit, and prevention of death.

“Bacon, Robert, & VandenBerg (2016) identified concerns with the lack of medication administration related to CIWA scoring of patients in a medical hospital. They found that 71% of patients with a CIWA score greater than eight were not given lorazepam (Ativan) for symptoms and 71% of patients with a CIWA score less than eight were not given the medication for symptoms. During this observational period, it was demonstrated that 21% of patients that scored >8 on the CIWA questionnaire were not given lorazepam for symptoms and that 71% of patients who did not receive a dose of Ativan had a CIWA score < 8 (Bacon et al., 2016). CIWA scoring is imperative when detoxing patients from alcohol to manage symptoms of withdrawal. The nurses assessment and the patient score determine if medication will be distributed for withdrawal symptoms of alcohol. It is critical that nurses are knowledgeable on how to accurately do CIWA scoring.

Nursing Significance to Patients, Society and Nursing

Alcohol withdrawal protocols are managed differently by healthcare professionals, some more detailed than others. Based on admission orders for the patient admitted with an ICD 10 code of alcohol dependence, the assigned healthcare provider will determine the level of care the patient will receive based on the assessment and severity of the withdrawal. The tools for assisting in detoxing can be confusing to nursing staff if they are not familiar with the assessment tool and in determining if patients should receive medication for alcohol detox. Nursing staff faces the issue of ease of use of the CIWA scale being administered, competency of interpreting the scale, medication

administration, and identifying the need for a higher level of care due to the deteriorating patient in withdrawal. At the time of this project, the CIWA scale was underused in the mental health setting where this student currently practices. Many patients admitted with CIWA orders were not scored properly or appropriately by nursing staff which resulted in adverse effects including patients requiring a higher level of care such as being admitted to the Intensive Care Unit of the local hospital while detoxing from alcohol. Frequent CIWA scoring cannot only help alleviate the patient's symptoms of withdrawal from alcohol but also gives nursing staff a better understanding of adjusting medication appropriately when needed. Patient outcomes may be improved through increased frequency of CIWA scoring, vital signs, and withdrawal symptoms therefore decreasing adverse effects in alcohol withdrawal.

Specific Aims & Purpose

The purpose of this quality improvement project was to examine the frequency of CIWA scoring and patients' response to treatment while detoxing from alcohol in the mental health drug and alcohol detoxification facility in Southeastern US. Additionally, an educational intervention was done with nursing staff on appropriate CIWA scoring methods. Frequent CIWA scoring was uncommon in this facility before this scholarly project was completed. The standard CIWA order had patients assessed every six hours for alcohol withdrawal symptoms. Patient at this facility experiencing alcohol withdrawal have reported not being scored appropriately, and not frequently enough resulting in worsening withdrawal symptoms of tremors, tachycardia, nausea, vomiting, diarrhea, delirium, and seizures. This is a process improvement for both patients and nursing staff. Increased frequency and accuracy of CIWA scoring can minimize the effects of alcohol

detox while in the mental health setting. The scoring frequency can help nursing staff by understanding the use of the scale, recognizing signs of withdrawal, notifying providers of deteriorating patient condition, and assisting in stronger assessment skills related to alcohol detox.

Theoretical Framework

One framework in particular that worked well in the current practice facility during this project is the Awareness, Desire, Knowledge, Ability, Reinforce known as the ADKAR management model. The ADKAR model is informal and makes it easy for nurses to understand the concept process of why change is needed and help them better understand the process of CIWA scoring (See Table 1 below). Introduction of this model and self-inclusion in the decision making can improve their commitment to the organization and raise knowledge and awareness of severity related to alcohol withdrawal (Tang, 2019). The ADKAR change management model allows for information to be collected and assessed in a way that change can occur on frequency of CIWA scoring and nursing assessment and awareness.

Table 1

ADKAR In Alcohol Dependency Table

Awareness	Desire	Knowledge	Action	Reinforcement
<ul style="list-style-type: none"> • Announce the needed change well ahead of implementation. • Provide reasoning for the change including current CIWA orders and the projected new frequency of CIWA scores. • Provide time for nursing to ask questions and help with suggestions. 	<ul style="list-style-type: none"> • Measure employees' reactions to changes initiated • Identify champions • Address indifference of employees if identified and how the change benefits the facility. 	<ul style="list-style-type: none"> • Provide resources such as flowcharts that can be used as a reference. • Address skill competency gaps. • Provide training to show the employees what will be expected after the change is implemented. 	<ul style="list-style-type: none"> • Practice of frequency and scoring of CIWA scores will be demonstrated prior to implementation. • Nursing performance will be monitored following change and feedback will be given. • Processes will be adjusted as necessary. 	<ul style="list-style-type: none"> • Monitor change over time to ensure it fulfills the outcome. • Employees will be rewarded with positive feedback, rewards, and recognition to keep the new process.

Project Questions

The following questions were developed in order to implement change in the practice guidelines in addiction medicine at the current facility of practice.

1. What was the mean frequency of CIWA scoring on patients admitted with alcohol dependence at a mental health hospital in the three months prior to an educational intervention with nursing staff?

2. What was the mean frequency of CIWA scoring on patients admitted with alcohol dependence at a mental health hospital in the three months after an educational intervention with nursing staff?
3. What is the nurse's knowledge related to CIWA scoring in a mental health facility prior to a quality improvement intervention?
4. What is the nurse's knowledge related to CIWA scoring in a mental health facility after a quality improvement intervention?
5. What are the nurse's perceptions related to CIWA scoring in a mental health facility prior to a quality improvement intervention?
6. What are the nurse's perceptions related to CIWA scoring in a mental health facility prior to a quality improvement intervention?
7. What barriers do nurses at a mental health hospital experience related to completing CIWA scoring?
8. Prior to a frequent CIWA scoring improvement plan, what was the rate of alcohol-related withdrawal seizures?
9. After a frequent CIWA scoring improvement plan, what was the rate of alcohol-related withdrawal seizures?

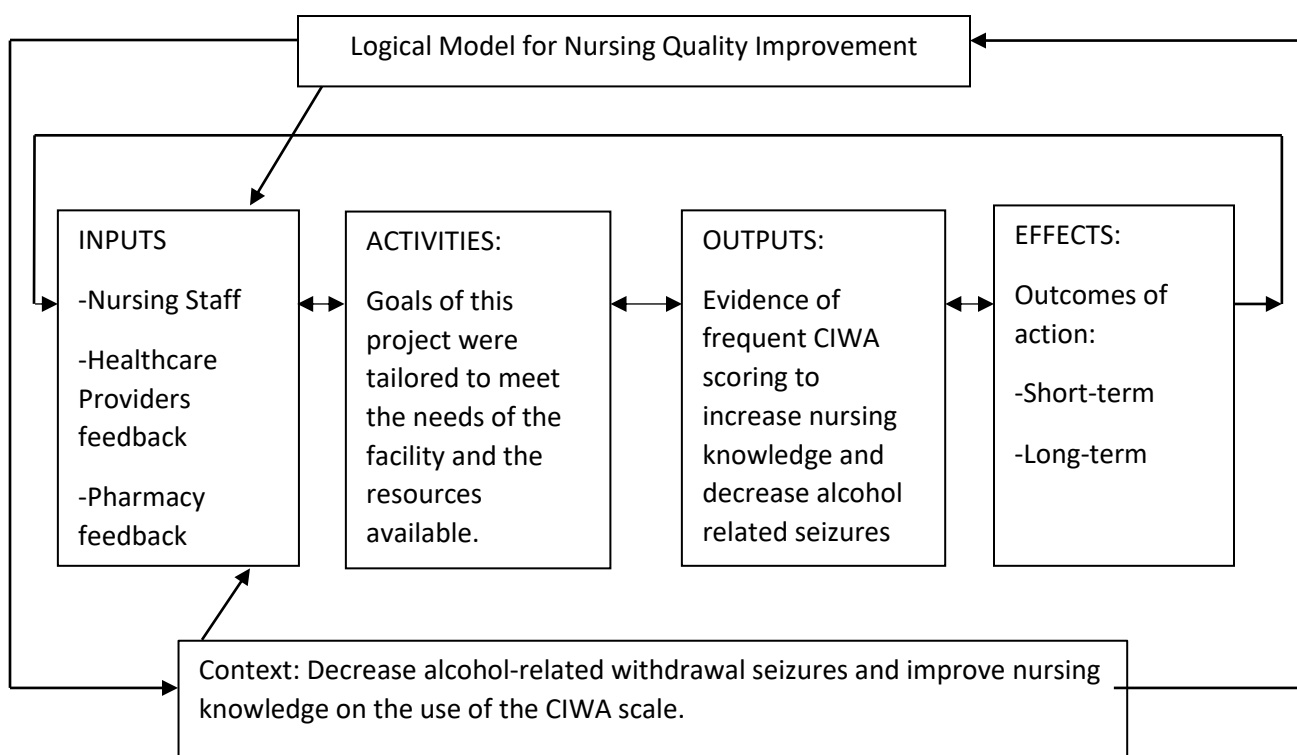
Definition of Key Terms/Variables

This list will identify key terms and variables during the discussion of this paper:

•**Clinical Institute Withdrawal Assessment:** A scale used in alcohol detox to determine severity and score of the patient based on symptoms related to withdrawal (Reoux & Oreskovich, 2006).

- **Alcohol Withdrawal Syndrome:** Effects of abruptly stopping intake of alcohol resulting in tremors, elevated heart rate, nausea/vomiting, abdominal pain, diarrhea, and severe pain (Bacon & Vandenberg, 2016).
- **Alcohol-Induced Disorders:** Occurs when abruptly stopping alcohol resulting in agitation, delirium, unsteady gait, sleep disturbance, and even seizures (Littlefield, 2018).
- **Alcoholism:** Not being able to go without drinking alcohol and having more than three alcoholic beverages in a day (Littlefield, 2018).
- **Benzodiazepines:** A class of drug that is commonly used in alcohol detoxing affecting the central nervous system (Tidwell et al, 2018).
- **ICD 10 Code:** Code used in admitting the patient with a diagnosis of alcohol dependence (Bacon & Vandenberg, 2016).

Table 2

Logic Model

The logic model components of purpose, context, inputs, activities, short- and long-term goals are detailed in the logical model above. Much time went into the planning for this project from seeking faculty, nursing, and pharmacy feedback on the most acceptable implementation process to implementing and sustaining a new process which was the one of the goals and context of the project with input from the team. Feedback was welcomed on the current CIWA scoring system gathering nursing staff input on what they felt would work best for a quality intervention and what would not. Negative and positive comments were open to discussion which fell under inputs. The goals of this project were tailored to meet the needs of the facility and the resources that are currently available there. Short-term goals are assessing barriers to the process through employee attitudes, compliance, and increasing the usage of CIWA scores. Long-term goals are assessing the old process to the new implementation process to the new implementation process and providing more efficient care to patients in alcohol withdrawal and for nursing staff to appropriately understand the use on the CIWA in patients going through alcohol detoxing.

Conclusion

The purpose of this project was to identify a process of improvement needed in a healthcare setting. The frequency of CIWA scoring in patients experiencing alcohol withdrawal syndrome and nursing competency of assessing patients on the scale were identified the need for process improvement by evaluating the area of background, establishing nursing significance, determining the most effective framework to implement the process improvement, and determining research questions that fit properly for the proposed process.

Chapter II

Literature Review

Completing an extensive review of studies and literature, Pittsburg State University's library Leonard H. Axe Library database were utilized to obtain supporting studies recommended for the process improvement project. The well-known resources Addiction medicine and American Psychological Association were utilized. These resources had significant information obtained from journals for the selected scholarly project that have been published within the last fifteen years.

Key words used for the literature review for the proposed scholarly were: CIWA scoring, alcohol detox, addiction to alcohol, delirium tremors, competency of CIWA scoring, CIWA errors, patient outcomes on CIWA scores, and CIWA frequency use. Over 500 articles were obtained using the specific keywords. However, the number of articles were decreased by reviewing key terms, peer reviewed article and data published within the last 15 years review of the abstracts of articles from the search assisted in reduction of articles only relevant to this project. The total number of articles selected for the literature review was narrowed down to ten articles which felt sufficient for a comprehensive literature review related to the topic.

The majority of this research was obtained from inpatient studies due to the significance and severity of co-morbidities along with the associated risk factors from

detoxing from a substance of addiction. However, there is a minor amount of evidence in the literature regarding competency on CIWA scoring. The majority of research was focused on patient outcomes, adverse effects, CIWA scores, and the amount of medication administered. Supplementary research focused on essentials from the admitting diagnosis, how soon the patient is placed on a CIWA scoring scale, length of hospital stay, and outcomes of detoxing.

Addiction

CIWA scoring, CIWA detoxing, alcohol dependence, nursing assessment of alcohol detoxing protocols, and medications used in alcohol detox were all searched to determine the most effective treatment of alcohol dependence in an inpatient mental health setting. The Standard Detoxing Guidelines, found on the website of American Society of Addiction Medicine, outlines what addiction is considered, detoxification, neurobiology assessing brain imaging related to substance abuse, pharmacotherapies, screening and prevention, and treatment guidelines to assist providers with appropriate discharge. The practice guidelines obtained from the readings were CIWA score based off alcohol withdrawal, and benzodiazepines for first line treatment with alcohol withdrawal. This is one of the top sources for addiction guidelines and assists clinicians in response to patient treatment.

Admission to the detoxing facility in Southeastern US is handled one of two ways. The patient will present to the local emergency room requesting detoxification of alcohol abuse and will be cleared medically before transfer to the detoxing facility through routine testing including, a blood alcohol level, urine drug screen, complete metabolic panel, total blood count with differential, and an EKG to rule out any

abnormalities. The second way to obtain admission to the detoxing facility is to walk into the treatment center requesting treatment. The intake department is responsible for accepting patients for treatment. Intake assesses and determines if the patient is a candidate for detox. Once the assessment is completed and the patient meets the criteria for admission, the medical nurse practitioner will be consulted for the appropriateness of admission and the recommended frequency of scoring, and medication guidelines.

CIWA Admission Orders

Before inpatient hospitalization, the intake nurse will obtain admission orders for alcohol detox. Alcohol dependence will be diagnosed, and the CIWA protocol will be put into effect prior to patient being placed in a room. The CIWA-Ar and the CIWA-Ad appear to be the golden scales most commonly used when assessing patients' withdrawal symptoms (Littlefield, 2019). The guiding principle of treatment related to alcohol withdrawal syndrome is standard withdrawal assessments known as a Clinical Institute Withdrawal Assessment Scale or CIWA-AR (Bakhla et al., 2014). The scale helps assist in the management of detoxing the patient from alcohol withdrawal and helps guide treatment when scored every four hours after CIWA scoring is implemented.

CIWA-Ad vs. CIWA-Ar

Alcohol withdrawal is managed at every hospital differently using various types of scales. The two common scales used in alcohol withdrawal are the CIWA-Ad, and CIWA-Ar which identify withdrawal symptoms and score them. Each scale is slightly different from the other. The CIWA-Ar scale assesses the severity of patients' alcohol withdrawal syndrome based on ten categories of agitation, anxiety, auditory disturbances, clouding of the sensorium, headache, nausea/vomiting, paroxysmal sweats, tactile

disturbances, tremor, and visual disturbances (Reoux & Oreskovich, 2006). The CIWA-AD assesses eight areas of detoxing from heart rate, hand tremor, anxiety, auditory or visual disturbances, agitation, nausea/vomiting, and headache (Reoux & Oreskovich, 2006). A clinical comparison of the two scales was completed using data to see if either of the scales fluctuated significantly when using the CIWA-AR vs the CIWA-AD (Reoux & Oreskovich, 2006). This study examined 135 alcohol detoxing orders between the two different scales to reach a conclusion of which one was most effective (Reoux & Oreskovich, 2006). The study exhibited scores obtained from the use of the CIWA-AR of the 135 alcohol-dependent inpatients that in return converted to the CIWA-AD scale which resulted in a substantially higher score than those obtained from the CIWA-AR causing the paired scores to differ by six in each direction (Reoux & Oreskovich, 2006). The conclusion collected from this study is that both scales measure symptom-triggered alcohol-related withdrawal and virtuous clinical judgment was required when identifying symptoms of alcohol withdrawal to avoid overmedicating the patient in withdrawal.

CIWA Use

The use of the CIWA is intended for patients who meet inpatient criteria for alcohol detox whether it be in an inpatient hospital setting or a psychiatric inpatient setting (Eloma, 2018). Both settings have standard detoxing protocols put into place to effectively and safely manage alcohol detox with the use of benzodiazepine treatment based on the presenting signs and symptoms of withdrawal every four hours. Upon admission to an inpatient setting, it's imperative the clinician is aware and has an active protocol placed for the safety of the patient.

Eloma (2018) completed an overview of CIWA-Ar protocol, prescribing patterns of administrated medication, documented alcohol withdrawal symptom risk factors, and patient's ability to communicate, along with provider awareness of the CIWA-Ar (Eloma, 2018). The retrospective chart review involved 118 hospital CIWA encounters within one year collecting the following information ranging from patient demographics, initial admitting diagnosis, alcohol blood level upon admission, and patient's ability to communicate (Eloma, 2018).

On the provider side, the chart review examined the specialty of the ordering clinician of the CIWA-Ar, chart review of documentation on present alcohol withdrawal risk factors, parameters put into place, provider alertness of the CIWA-Ar protocol within 48 hours of admission, total doses of benzodiazepines, and adverse events while inpatient (Eloma, 2018). The findings suggested that 57% of patients placed on a CIWA-Ar protocol scored a zero or one alcohol-related risk factor on documentation presented within the chart review (Eloma, 2018). Twenty percent of the 118 charts reviewed lacked documentation of recent alcohol use. The selected charts demonstrated that 14% of patients placed on a CIWA-Ar were unable to communicate and that 19% of the charts lacked provider awareness of the order implemented upon admission (Eloma et al., 2017). CIWA-Ar protocols in a general hospital setting require strong assessment skills, adequate documentation, knowledge of associated alcohol withdrawal risk factors, and clinician knowledge to properly and safely detox the patient whether it be inpatient or a psych unit to get the patient back on the road to recovery.

Routine CIWA Orders

Respectively each hospital has different pharmacological management approaches to alcohol withdrawal among different levels of care within the hospital and different approaches of care per provider. Each provider has a certain way of finding what is most efficient and providing best practice guidelines to achieve positive outcomes for patients based on past and present experiences.

One assessment of symptom-based treatment was evaluated to determine if alcohol detoxing patients are improperly placed on a system-triggered therapy instead of a CIWA scale (Hecksel et al., 2008). To compare the misuse of the CIWA scale vs. symptom-triggered alcohol withdrawal, a random selection of one-hundred twenty-four chart audits were evaluated to determine which patients received symptom-triggered therapy known as (STT) while inpatient. The chart audit revealed that sixty of the charts met both criteria for system-based treatment and half of the randomly selected charts made inclusion criteria to be placed on the CIWA. The authors concluded that more education is needed, and a stronger evaluation should be obtained (Hecksel et al., 2008). The study concluded that STT was used more than the CIWA-Ar.

Miller and Reoux (2000) conducted a review on an addiction unit that included patients being hospitalized for withdrawal symptoms. Detoxification orders were compared to assess the outcomes of the patients through a chart review. One hundred and seventy-two charts were selected from an eight month timespan however, due to the primary diagnosis not being listed as alcohol withdrawal only forty-two charts were able to be utilized. These charts were from a patient with ICD-9 codes related to alcohol detox (Miller & Reoux, 2000). Within this study, uncomplicated alcohol withdrawal patients

were placed on a withdrawal scale administered by nursing that was ordered by providers along with symptom-triggered approaches.

Medication was given based on nursing assessment and a score greater than ten on the CIWA. Once the medication was administered patients were re-assessed within one hour and if they still displayed symptoms of alcohol withdrawal medication was administered hourly till CIWA dropped below ten (Miller & Reoux, 2000). Twenty-six individuals received trigger-based treatment from the CIWA scale (Miller & Reoux, 2000). The other 14 patients did not have a standardized assessment tool indicating that withdrawal assessment scales should be evaluated for use of uncomplicated withdrawal (Miller & Reoux, 2000).

Another journal review titled, “*Alcohol Withdrawal Syndrome in ICU Patients*” observed the use of the CIWA-Ar scale in the intensive care unit and the determining factor for admission to the ICU when detoxing a patient off of alcohol (Littlefield, 2018). The study was completed to gather evidence to determine how the patient ended up in the ICU. The retrospective cohort study was used to identify patient aspects associated with alcohol withdrawal syndrome who had seven days or greater in the intensive care unit due to pre-existing conditions (Vigouroux et al., 2021). Two hundred and four patients were admitted to the ICU with alcohol withdrawal symptoms with the three top factors being sepsis, altered consciousness, and seizures (Vigouroux et al., 2021). The study concluded alcohol withdrawal symptoms can cause further issues of detoxing but the main reason for being admitted to the ICU is due to underlying conditions (Vigouroux et al., 2021).

One ICU study demonstrated a comparison between the medical floor CIWA-Ar vs. CIWA in the ICU unit with patients being non-verbal (Steele et al., 2021). The objective of this study was to measure the frequency of CIWA-Ar monitoring of patients with alcohol withdrawal admitted to the ICU. The CIWA-Ar was not being used appropriately in the ICU. This raised a concern about what would be a more appropriate approach for patients that are non-verbal and being treated for alcohol withdrawal syndrome (Steele et al., 2021).

Alcohol withdrawal syndrome is managed in the inpatient setting CIWA in some institutions and by the Minnesota Detoxification Scale commonly known as Mminds in others. One study compared these two scales to evaluate the symptoms of withdrawal and how often both scales were used by conducting a correlation study (Littlefield, 2018). One-hundred eighty-five CIWA and Mminds scores were compared in thirty patients resulting in the pearson correlation coefficient score of 0.82 (Littlefield, 2018). This demonstrated a solid correlation between the two scales being applied to alcohol withdrawal and both scales being utilized for alcohol detox however, the CIWA scale showed a higher significance in safely detoxing patients (Littlefield, 2018).

Medication Selection for Withdrawal

When selecting medications for withdrawal many clinicians have medication preference based on past treatment of patients and what would be in the best interest and harmless to the patient. The clinicians can select an instrument or put the patient on a standard detox protocol having scheduled administration of medication at certain times of the day for multiple days. A clinical study regarding phenobarbital preferences was conducted using the CIWA-Ar compared to the use of triggered based therapy through

benzodiazepine administration (Tidwell et al, 2018). The study was done to determine what medication would be most effective in the patient experiencing withdrawal and how the detoxing went compared to inpatient stay. The retrospective cohort study conducted from January 2016 through June 2017 exhibited that patients that took phenobarbital routinely resulted in a shorter stay compared to the patients who were treated off of symptom-based alcohol withdrawal with benzodiazepines (Tidwell et al, 2018). The authors detailed that phenobarbital detoxed the patient safely, and effectively decreasing the hospital stay compared to the use of a benzodiazepines.

Nursing Utilization of CIWA

The CIWA is conducted by the nurse after the clinician has admitted the patient with alcohol detox orders. Nursing satisfaction with the CIWA-Ar scale was measured. Additional variables measured were which nurses received training to use the scale, and nursing use of the CIWA-Ar (Bacon & VandenBerg, 2016). A retrospective chart review was conducted from August 1, 2014, through September 30, 2014, collecting data from 274 patient charts selected based on demographics, admitting diagnosis, vital signs, alcohol level upon admission, use of lorazepam, and CIWA-Ar scores (Bacon & VandenBerg, 2016). In this study 21% of the patients did not receive lorazepam when scoring an eight or greater on the CIWA, but 71% were administered a dose of lorazepam when a score of less than eight was obtained on the CIWA-Ar measurement tool (Bacon & VandenBerg, 2016). The findings indicated that the CIWA scale is not appropriately utilized showing that patient's who scored high on the scale did not receive appropriate withdrawal medication for alcohol withdrawal symptoms. These findings display that

patients being detoxed from alcohol are not being administered medications or assessed frequently enough when drinking has ended.

Competent use of the CIWA-Ar has been a concern related to nursing assessment of alcohol withdrawal syndrome. As the above study mentioned, the difference in the scoring and selection of patients that received medication for withdrawal and those that did not is concerning. This brings into question the proficiency of nurses using the CIWA scale to guide medication administration. When researching, very few articles were found on nursing staff being educated on the competency test for use of the alcohol withdrawal scale. This demonstrated an area for process improvement to help nursing better understand the proper use of the scale and the importance of having strong assessment skills. Bacon and Vandenberg (2016) investigated nursing satisfaction with the use of the CIWA scale and being educated about it. This survey on proper training of the CIWA scale had 284 responses and only 36% of nurses who responded felt trained adequately in administering the CIWA-Ar (Bacon & Vandenberg, 2016). Findings such as these demonstrate a need for better education of nursing staff on the importance of CIWA scoring and how to properly use the tool.

Conclusion

The use of which scale is most effective in alcohol detoxing has been questioned and extensively reviewed to obtain which one is most beneficial in the patient's plan of care when detoxing from alcohol. The use of the CIWA-Ar was carefully examined in the literature on its use on the general floor of the hospital compared to the use of the CIWA-Ar in an ICU setting. Additionally, triggered-based therapy and selection of medication was also examined in the literature. The proposed project demonstrates a need for process

improvement of frequent CIWA scoring, and nursing competency assessment demonstrates a need for more education on how to use the scale, and how to interpret the results managing the patient's detox proficiently and effectively. The use of the CIWA scale is the standard tool for measuring withdrawal symptoms, but the frequency and accuracy of patient scores is an area that can be improved.

Chapter III

Methodology

The project design and target population were selected after analysis of Addiction Medicine and the American Psychological Association recommendation of frequency of CIWA scores, and benzodiazepine administration. The target population for the study was chosen because patients detoxing from alcohol are believed to have a higher risk of adverse effects leading to negative outcomes. Alcohol withdrawal is proven to be associated with requiring a higher level of care if not managed appropriately ranging from delirium, seizures, tremors, tachycardia, hypertension, and death as discussed in previous chapters. The focus of this quality improvement project was selected to examine the frequency and accuracy of CIWA scoring in an effort to decrease the number of alcohol related withdrawal symptoms. The target population selected for this study was chosen because of how often CIWA scores were being completed and the large number of adverse effects that patients detoxing from alcohol are at risk for in an inpatient mental health facility. The focus of this project was to provide education to nursing staff at the facility to increase the frequency and accuracy of CIWA scores.

Project Design

This scholarly project utilized a mixed method research design to evaluate frequency of CIWA scores before and after the education intervention with the nursing staff of an inpatient mental health facility. Open-ended questions were also asked to elicit the nurses' attitudes and knowledge on CIWA scoring. The education intervention was provided to nursing employees at the facility who administer the CIWA tool. All nursing staff were educated regarding the importance of frequent CIWA scores in patients withdrawing from alcohol. An educational handout was provided to nursing on the pathophysiology of alcohol withdrawal, assessment, and treatment. On the back side of this educational handout nursing staff were given different patient scenarios to score using the CIWA tool. Additionally, this investigator examined the number of patients who received CIWA scoring for alcohol detox and experienced alcohol-related seizures in the three-month period before and after the educational intervention utilizing appendix C. This was based on the total number of admissions to the facility who received an ICD 10 code of alcohol dependence. A Quality Improvement (QI) intervention was implemented and then the proportion of frequent CIWA scores were examined and compared to the scores collected before the QI project implementation. Frequency of CIWA scoring before and after were compared along with the results of a nursing staff survey before and after implementation of the quality improvement project.

Sample/Target Population

The population utilized in this scholarly project were all nursing staff at a mental health hospital who assess the patient for alcohol withdrawal by assigning a CIWA score and who administer medication based on the CIWA score. This nursing staff ranged from

licensed practical nurses (LPNs), to registered nurses (RNs) associate and bachelor prepared. Each unit nursing staff consists of an RN that is the charge nurse and an LPN who administers the medication to patients.

Inclusion and Exclusion Criteria

The nursing staff utilized for this project were participating on their own and not in orientation. New nurses with less than six months of experience were excluded from the study. The inclusion criteria consisted of RNs with either an associate or bachelor degree, and LPNs that are employed at the facility where the project will take place to administer CIWA assessment, assign scores, and administer medication for the patient in alcohol withdrawal.

Human Rights Protection

Approval for this project was obtained from the Institutional Review Board (IRB) at the Irene Ransom Bradley School of Nursing and from Pittsburg State University through the necessary steps to complete the quality improvement project. Protection of human rights for this scholarly project followed strict guidelines to protect patient and nursing privacy. It's important to protect the privacy of participants, and always have their welfare in mind (Institute of Medicine, 2009). Confidentiality was maintained by not disclosing the patient's personal information such as name, date of birth, or social security number on data collected for the project. Information collected for this project was strictly the number of patients admitted with ICD 10 codes of alcohol dependence, CIWA scores, medication administration, and any adverse effects that took place within this study. All nursing participants who were educated were surveyed on the competency

of the CIWA scale and areas of improvement for alcohol detox that warrant further education.

Ethical Considerations

Ethical considerations in this project were honored through protection of patient and nurse privacy and confidentiality by not collecting names, address, or social security numbers. Information was collected through a retrospective manner to identify the population of those at risk for adverse effects of alcoholism if not treated properly. Clinical research was used to collect and analyze data to form best practices to benefit future patients or further the healthcare field's knowledge on alcohol dependence and detox.

Instruments

The data assessed for this study was the number of patients admitted with a diagnosis of alcohol dependence, medication administration time, the number of alcohol related withdrawal seizures, and the number of patients transferred to a higher level of care before and after implementation of this quality improvement project. A questionnaire was given to all nursing staff members who administer the CIWA assessment scale of withdrawal and nursing staff input on the competency of the CIWA scale to express feelings as to why the percentage of completed CIWA scores before the implementation of the project was low. The questionnaire aimed to identify barriers perceived that limited the ability to frequently complete CIWA scoring on patients admitted for alcohol detoxification. The questionnaire was completed anonymously and gathered at the end of the project.

The CIWA scale was the instrument utilized in this study to help clinicians assess and diagnose alcohol withdrawal symptoms and manage them appropriately while inpatient until detox is complete. The effectiveness of this instrument was determined from the scores of the CIWA. Each category has a range in scoring the patient's symptoms of withdrawal with a score of less than ten indicating mild withdrawal, scores ranging from 11-15 indicating moderate withdrawal, and scores above 16 indicating severe withdrawal (Sharp, 2022). The use of the instrument alone can help manage detoxing protocols related to alcohol abuse and assess adverse effects in relation to detoxing.

Procedure

The first step in the project was to obtain IRB approval. Once approval was granted, the implementation of the QI took place. Patients admitted with ICD-10 diagnosis of alcohol dependence, CIWA scores, frequency of scoring, alcohol-related seizures were gathered from the mental health drug and alcohol detoxification facility in Southeastern US pre-intervention between the dates of April 7, 2023 through July 7, 2023. After the retrospective chart data was collected, nursing staff who completed CIWA assessment scales and administered medication were distributed a survey assessing barriers that may have impacted low CIWA scores when adverse events occurred after scores were assigned from the time the patient was admitted.

Once this information was collected and analyzed, a QI was implemented on July 7, 2023. The QI intervention included assessing the competency of nurses in the use of CIWA scales and education to nursing regarding the importance of proper evaluation of alcohol detox relevant to the patient's health and safety while hospitalized. The same

nursing staff was educated on specific steps for completion of the CIWA assessment tool specifically utilizing the CIWA sheet, along with assessment of vital signs every four hours. Nursing competency was determined by giving case studies and assigning scores. This can help determine areas needed for improvement before administering the CIWA scale on future patients. The intervention was designed to increase frequency of CIWA scoring that is completed by nursing staff.

Once all nursing staff was educated on the proper use of the CIWA scales and the intervention was implemented to score patients every four hours to the plan of care, data collection on the number of alcohol-related withdrawal seizures and the number of patients requiring a higher level of care due to seizures was CIWA collected from July 8, 2023 through October 8, 2023 and compared to the previous three months.

Data Evaluation

For this scholarly project, the collection of data included an extensive chart review observing patients coded with ICD 10 code alcohol dependence, CIWA admission orders, CIWA scores, administration of medications used effectively in the process of withdrawal, and alcohol related seizures before and after were assessed to determine the effectiveness of the current CIWA protocol in place. Patient demographic information was kept out of the data collection and each patient was assigned a random patient number in order to protect the privacy of the patient. Appendix C identified patients by assigned numbers with the frequency of CIWA scoring, and number of alcohol related seizures. Appendix C also included all participants selected after the quality improvement project looking at the frequency of CIWA scores, and alcohol related withdrawal seizures. Nursing staff completed a survey on the competency and user-friendliness of the

CIWA score in determining the most beneficial detoxing process relation to inpatient services of alcohol-related withdrawal. Nursing staff were anonymous participants and given a handout on alcohol detox along with competency of the CIWA scoring and areas of need in order to effectively understand and administer the assessment tool. Data was analyzed by reviewing charts three months prior and three months after QI intervention was put into place. The number of alcohol withdrawal-related seizures were compared to CIWA assessment every four hours and every six hours. Nursing competency was assessed from pre and post survey on the use of the CIWA scale.

Plan of Sustainability

To effectively implement a new process, it's important to come up with a plan of sustainability to make sure the new process is carried out. Numerous models have been used in healthcare research to assess outcomes of implemented interventions to provide safe effective patient care and the standard of guidelines. The model that will be utilized in the scholarly project is The Plan Do Study Act (PDSA) model. The PDSA has four categories for implementing a plan of sustainability for this proposed scholarly project through planning, doing, studying, and acting (Institute for Healthcare Improvement, 2022). The first step in the scholarly project was to plan the objective of the study which was frequent CIWA scoring, and nursing competency assessment on CIWA scales. This helped to identify the assessment skills of the practicing nurse administering the scale, and distributing medications to the patients in alcohol detox, and the frequency of the CIWA scoring to help manage alcohol detox more effectively causing fewer adverse effects from alcohol detox. The second step of the process is to carry out the plan. The do phase was to put the proposed plan into play and document the problems, which started

the analysis of the data (IFHI, 2022). This was done once the quality improvement process was put into effect for three months ensuring frequency of CIWA scores administrated by nursing staff. The third step of this process was to study the quality improvement measure once implementation was put into effect assessing all areas of withdrawal related to alcohol as previously discussed in chapters. The fourth process in the PDSA model is the act. The act process will involve redefining the changes based on the collection of data results from the improvement process. This step was to implement the change in the frequency of CIWA scoring, and nursing competency assessment on the CIWA scale. If the proposed quality improvement project demonstrates the intended purpose of being beneficial, the intervention can be implemented across the board on all patients who enter the facility with the ICD-10 code of alcohol dependence. The CIWA assessment scale will be reiterated frequently with all nursing staff involved in using the assessment scale and distributing medication to patients in active withdrawal. In a daily team meeting, the charge nurse will report all patients on the CIWA score, and discuss any adverse effects. If adverse effects are reported then a chart review will be completed to check compliance with the quality improvement project. The plan for sustainability and nursing competence of the CIWA scoring once the project is completed will be to include training into nursing orientation ensuring each nurse is competent and have been trained effectively to administer the CIWA scale appropriately prior to completion of orientation. In order to ensure stainability of the new QI project at the facility process control boards, performance boards, and daily improvement huddles will be utilized. This will be completed through best practice standards to ensure implemented changes are consistently and reliably applied to every encounter (Silver et al., 2016). These steps will

help ensure change and support the quality improvement proposed project holding nursing staff accountable for implemented changes.

Conclusion

This chapter discussed the steps implemented for the quality improvement process by identifying the design of the project, the sample/target population, inclusion & exclusion criteria, protection of human subjects, instruments used within the process, the procedure used in the collection of the data, overview on the treatment of outcomes, evaluations, and the plan for sustainability to increasing CIWA frequency and decreasing adverse effects of alcohol withdrawal.

Chapter IV

Evaluation of Results

Population Description

The population selected for this project was nursing staff and patients admitted to the hospital with an ICD ten code of alcohol dependence. Data was evaluated three months before implementing an educational intervention with nursing staff and three months after the educational intervention. Nursing staff and alcohol-dependent patients from mental health drug and alcohol detoxification facility in Southeastern US were involved in this project.

A total of 194 patients were admitted to this institution for alcohol dependence during the time-frame for this study. Ninety-six patients were admitted before the implementation of the improvement project and 98 were admitted after implementation of frequent CIWA scoring. Twenty nurses were provided education on CIWA scoring and were surveyed using the instrument in Appendix A.

The nursing staff population examined during this timeframe of six months was divided into the night shift, day shift, full-time, part-time, and PRN that worked at the mental health drug and alcohol detoxification facility in Southeastern US during this time of the improvement project. The day shift consisted of ten nurses five of them were registered nurses and five of them were LPNs. The night shift consisted of ten nurses

total with five of them registered nurses and five LPNs. Three nurses had been practicing as registered nurses at the mental health drug and alcohol detoxification facility in Southeastern US on the day shift for over one year but had been nurses for ten years. Two registered nurses who had been a nurse for less than one year. Two LPNs have been employed at the mental health drug and alcohol detoxification facility in Southeastern US for more than five years, two LPNs had been in practice for less than one year, and one LPN had been practicing for two years at the facility. Night shift nursing staff consisted of three travel registered nurses who had been traveling for two years, and two registered nurses who had been practicing less than a year. All LPNs on the night shift were travel nurses who had been traveling for more than three years.

Key Variable Description

On July 7, 2023 nurses at a mental health drug and alcohol detoxification facility in Southeastern US nursing staff was given educational handouts on alcohol detox along with competency of the CIWA scoring and areas of need to effectively understand and administer the assessment tool. Data collection started the following day July 8, 2023, through October 8, 2023.

Project Question/ Analyses

What was the mean frequency of CIWA scoring on patients admitted with alcohol dependence at a mental health hospital in the three months prior to an educational intervention with nursing staff?

The mean frequency of CIWA scoring on patients admitted with alcohol dependence at mental health drug and alcohol detoxification facility in Southeastern US was every 6 hours while the scale was implemented for seventy-two hours.

What was the mean frequency of CIWA scoring on patients admitted with alcohol dependence at a mental health hospital in the three months after an educational intervention with nursing staff?

The mean frequency of CIWA scoring three months after educational intervention with nursing staff was completed every four hours.

What is the nurse's knowledge related to CIWA scoring in a mental health facility prior to a quality improvement intervention?

Registered nurses' and LPN's knowledge was deficient due to the fact they were completing CIWA scores by observation and not by verbally asking the patient and assessing vital signs. Night shift nurses reported the patients admitted with alcohol dependence were sleeping so appeared to not be scoring and was marked a zero for withdrawal signs and symptoms.

What is the nurse's knowledge related to CIWA scoring in a mental health facility after a quality improvement intervention?

Nursing knowledge improved after educational intervention and understanding the importance of proper scoring related to alcohol withdrawal after educational intervention was performed with practice score cards. Nursing staff reported a better understanding and use of the CIWA scale and the importance of it and knew signs and symptoms to assess for also monitoring vital signs for elevated heart rates, and elevated blood pressures.

What are the nurse's perceptions related to CIWA scoring in a mental health facility prior to a quality improvement intervention?

Nursing perceptions of the CIWA scoring at the mental health drug and alcohol detoxification facility in Southeastern US prior to the quality improvement intervention was viewed as scoring the patient to detox but also questioned if the patient was drug seeking. Many nurses also reported during the educational intervention this was their first encounter with the CIWA scale. They stated they were provided a copy in orientation of what it looked like but were not educated on proper scoring of alcohol detox.

What are the nurse's perceptions related to CIWA scoring in a mental health facility after a quality improvement intervention?

Nursing reported they had been observing patients admitted with alcohol dependence who were detoxing and not fully asking them all the question of the CIWA scale and some even reported miscalculation of adding the CIWA score together.

What barriers do nurses at a mental health hospital experience related to completing CIWA scoring?

Barriers reported by nursing staff at the mental health drug and alcohol detoxification facility in Southeastern US related to completing the CIWA score is not being properly trained on the scale and tallying the total in order to administer medication. Many reported that hospital orientation did not give them a basic understanding of the scale or competency test on scoring patients going through withdrawal. One nurse had stated, "I felt the patient was drug seeking, they didn't score enough to receive medication when I was observing them, and I've never seen this scale before, I just did what I was taught by the other nurse".

Prior to a frequent CIWA scoring improvement plan, what was the rate of alcohol-related withdrawal seizures?

Data collection three months before the educational intervention showed a total of 96 patients admitted to inpatient hospitalization for alcohol detox and coded specifically as alcohol dependency. In April 2023, 31 patients were admitted for alcohol dependency, and out of the 31 admitted seven patients were sent out to the local ER due to uncontrolled seizures related to alcohol withdrawal, and four patients experienced withdrawal seizures while at the mental health drug and alcohol detoxification facility in Southeastern US that were administered Ativan two milligrams intramuscular and stopped seizing. In May 2023, 29 patients were admitted under alcohol dependency and five of that total were sent out to the local ER due to uncontrolled withdrawal seizures and six patients experienced withdrawal seizures while inpatient but recovered from administered Ativan. June had a total of 36 admissions for alcohol dependency with six of those admissions being transferred to the hospital due to severe dextox of alcoholism and uncontrolled withdrawal seizures. Six patients for that month experienced seizures while inpatient but responded well to administered medication within the facility not requiring transfer hospitalization.

After a frequent CIWA scoring improvement plan, what was the rate of alcohol-related withdrawal seizures?

Data collection three months after the educational intervention showed a total of ninety-eight patients admitted to inpatient hospitalization for alcohol detox and coded specifically as alcohol dependency. In July 2023, 28 patients were admitted for alcohol dependency, and out of the 28 admitted four patients were sent out to the local ER due to uncontrolled seizures related to alcohol withdrawal, and three patients experienced

withdrawal seizures while at the Southeastern detox facility but controlled with intramuscular Ativan. In August 2023, 31 patients were admitted under alcohol dependency, two patients were sent out to the local ER due to uncontrolled withdrawal seizures, and two experienced withdrawal seizures while inpatient but recovered from administered Ativan. September had a total of 39 admissions for alcohol dependency with one patient being sent to the local ER due to uncontrolled withdrawal seizures and three patients that month experienced withdrawal seizures while inpatient but responded well to administered medication within the facility not requiring transfer to the local ER.

Additional Statistical Analysis

Additional Statistical Analysis was performed on the chart review data and the nurse survey data using SPSS 26. Frequencies, descriptive statistics, and paired samples t-tests were performed. A paired samples t-test showed that the participant's level of Knowledge of CIWA Scoring increased from pre-program to post-program ($M = 1.15$, $SD = 0.933$; $t = -5.510$, $p = .000$). A paired sample t-test showed that the frequency of CIWA Scoring increased from pre-program to post-program ($M = -.750$, $SD = .639$; $t = -5.252$, $p = .000$). A paired samples t-test showed that there was no statistically significant change in participant knowledge of when to give prescribed medication based on the patient's CIWA scores ($M = -.150$, $SD = .366$; $t = -1.831$, $p = .083$). A paired samples t-test showed that the knowledge of active detox increased from pre-program to post-program ($M = -.800$, $SD = .616$; $t = -5.812$, $p = .000$). A paired samples t-test showed the confidence in scoring patients on the CIWA scale increased from pre-program to post program ($M = -1.100$, $SD = .788$; $t = -6.242$, $p = .000$). A paired samples t-test showed that the participants time level use of the CIWA increased from pre-program to post-program ($M = -.800$,

SD=.768; $t=-4.660$, $p=.000$). A paired samples t-test showed that drug seeking increased pre-program and post-program ($M=-.700$, $SD=.865$; $t=-3621$, $p=.002$). A paired samples t-test showed CIWA training increased from pre-program to post program ($M=-1.100$, $SD=.718$; $t=-6.850$, $p=.000$). A paired samples t-test showed that frequency of CIWA scoring increased from pre-program to post-program ($M=-1000$, $SD=.973$; $t=-4.595$, $p=.000$).

Table 3

Alcohol Related Withdrawal Patient Data

	April 7 – June 7, 2023	July 1 – October 7, 2023	Paired Samples T-test	Significance
Number of Patients Admitted with ICD 10 Code of Alcohol Dependence	96	98	N/A	N/A
Number of Alcohol-Related Withdrawal Seizures	34	15	3.530	0.001
Number of Patients Transferred to a Higher Level of Care due to Alcohol-Related Withdrawal Seizures	18	7	0.487	0.001

Table 4

Nursing Staff Mean Scores Pre- and Post-Educational Intervention

Item	Mean Score Prior to Intervention n=20	Mean Score After Intervention n=20	Paired Sample t-test	Significance
1. I know how to properly complete a CIWA assessment scale.	1.75	2.9	-5.510	0.000
2. I know the best frequency for completing a CIWA assessment on a detoxing patient.	1.65	2.4	-5.252	0.000
3. I know when to give prescribed medication based on the patient's CIWA scores.	2.45	2.6	-1.831	0.083
4. The patient's CIWA score helps me to determine when patients are actively detoxing.	2.1	2.9	-5.812	0.000
5. I have confidence in scoring patients on the CIWA scale.	2.1	3.2	-6.242	0.000
6. Sometimes there is not enough time to properly assess the CIWA score.	1.9	2.7	-4.660	0.000
7. Sometimes I just write a CIWA score because I think the patient is drug seeking.	2.30	3.0	-3.621	0.002
8. The training on CIWA scoring at this facility is adequate.	1.3	2.4	-6.850	0.000
9. The frequency of CIWA scoring at this facility is adequate.	1.7	2.7	-4.595	0.000

Summary

The purpose of this project was to increase nursing knowledge on alcohol withdrawal signs and symptoms, the importance of frequent and accurate CIWA scoring, understanding the scale correctly, and when to administer medication to prevent alcohol-related withdrawal seizures. Data was collected after nursing staff education was completed. Data collection and evaluation revealed findings significant to the purpose of the study. The study results displayed that educating nurses on how to administer the

CIWA scale frequently and accurately can decrease the number of alcohol-related seizures and decrease transfer rates out to the local ER for uncontrolled alcohol-related withdrawal seizures.

Chapter V

Discussion

The purpose of this study was to decrease alcohol-related withdrawal seizures in patients over the age of 18 years in a psychiatric hospital. The project assessed to find out why the increase in alcohol-related seizures continued to rise and why patients required a higher level of care and couldn't be managed in the mental health facility rather than an acute care hospital. Nursing staff were educated and provided pre and post-surveys on their comfort level and confidence in assessment skills when scoring a patient for alcohol-related withdrawal. From data collection it showed that staff education provided on the CIWA helped nursing obtain a clearer understanding of using the CIWA scale and monitoring patients closely for alcohol related withdrawal symptoms and decrease seizures in patients detoxing from alcohol.

Research Outcomes

The idea of this project was brought to this DNP student's attention when it was realized the number of patients being sent out for a higher level of care related to alcohol withdrawal seizures and the inaccurate assessment of the patient. Many patients admitted to the facility for alcohol detox were scored zero by nursing staff shortly before the provider scored the patient at ten or greater on the CIWA scale. Bacon et al (2016) demonstrated for symptoms and that 71% of patients who did not receive a dose of

Ativan had a CIWA score < 8 . This article helped guide the development of this quality improvement project.

Observations

During this process, observations were made on the frequency of CIWA scores, how nursing was assessing the patient, tallying of total scores, and knowledge with the use of the scale when assessment of the patient occurred. From the educational piece on the CIWA and importance of the scale used in conjunction with assessment skills, nursing staff stated they felt like they were not given much education on the scale, and did not fully understand the purpose and significance behind it. Nurses who had less than one year experience reported they were not comfortable with use of the tool in assisting with patient detox. Some of the nursing staff felt they lacked knowledge, training, and practice prior to administering the scale. Nurses with more than one year of experience felt it was lack of education provided, they were doing the best they could with what was given to them.

When providing an educational handout on the importance of frequent CIWA scoring and understanding the scale in proper assessment of the CIWA scale, nursing staff had some resistance towards the process. The nurses surveyed at the mental health drug and alcohol detoxification facility in Southeastern US stated that this facility did not give competency quizzes on understanding the CIWA scale and that when not properly educated, they felt they were thrown to just learn it on their own and assume they were doing it correctly based on the training provided at the facility. Nurses stated they felt inadequate in proper scoring and also felt patients were exaggerating symptoms to obtain medication to feed addiction problems.

Discussion of Results

These results of this project were consistent with the findings compared to the literature review. The guiding principle of treatment related to alcohol withdrawal syndrome is standard withdrawal assessments (Bakhla et al., 2014). This scale was used consistently throughout this project and frequently. Nursing showed an increased in level of knowledge on the CIWA scale which the findings were consistent with the findings from (Eloma, 2015). Nursing felt more confident on administering medication and scoring patients after education was provided on the use of the CIWA scale which relates to the findings from (Bacon et al, 2018). Assessment of the nursing staff and the amount of time they had to assess the patient differed from the literature review due to the lack of information on nurse timing.

The objective of this project was to decrease alcohol related withdrawal seizures and increase nursing knowledge of the CIWA scale and appropriate assessment of the patient. It was achieved through nursing education and implementing a QI project. This showed a statistically significant increase in nursing knowledge and improvement of alcohol withdrawal assessment.

The data gathered in this project correlates with the goals, but some of the data differed due to a different setting with it being an inpatient hospital setting with the findings in Eloma, 2018 versus being a mental health alcohol and drug rehab facility. The findings turned out to correlate with the literature review that frequent use of the CIWA scale decreases alcohol related withdrawal seizures.

Evaluation of Theoretical Framework

The theoretical framework used for this project and discussed in Chapter I, was the Awareness, Desire, Knowledge, Ability, Reinforce known as the ADKAR management model. Educating nursing staff on the importance of alcohol withdrawal, willingness to participate in the changes, knowledge awareness of how serious alcohol detox is, complete accurate CIWA scoring, and continuing to monitor the patient for alcohol withdrawal symptoms to prevent alcohol-related seizures while inpatient by educating the nursing staff on areas of needed improvement. The ADKAR model was useful in helping nursing staff understanding the detoxing process leading to withdrawal symptoms that can turn into withdrawal seizures.

Utilizing the ADKAR model framework, nurses involved in this process from both shifts day and night shifts were asked to take a pre-test before the educational intervention. This pre-test assessed the nursing staff's views and attitudes towards the effect, assessment of the educational intervention was completed with a post-test.

Logic Model Evaluation

Purpose, context, inputs, activities, short-term and long-term outcomes were selected to best fit this project. The logic model showed the best beneficial way to implement a new process with CIWA frequency scoring every four hours with proper education provided to nursing staff in order to ensure success by engaging nursing staff to understand the importance of the new process being put into place and feeling properly educated. The short-term goals of this project were met to decrease alcohol withdrawal seizures while inpatient and not require a higher level of care. The project did not evaluate CIWA training in hospital orientation which nursing reported the education

lacked. Although many nurses reported they were not giving a competency test on the CIWA scale, they were giving the CIWA scale in their orientation notebook and felt as if they should have known what it was.

Limitations

There were limitations encountered in both the nursing population and the patient population. This project encountered a high turnover rate with nursing staff at the mental health drug and alcohol detoxification facility in Southeastern US. Due to the rate of rapid new nurses in the facility, continuing education was provided to new oncoming nurses. Due to turnover rates nursing staff who were new to the facility were accepting of this and others were not because they felt the patient was drug-seeking.

The next limitation of this project was patients admitted with alcohol dependency but also came in with opioid dependency. Over the course of the chart review for this study it was discovered that many patients presented to the mental health drug and alcohol detoxification facility in Southeastern US with alcohol dependency but were also seeking detox for polysubstance abuse. This alone narrowed down the results of the findings which limited the chart review. All charts were extensively reviewed for alcohol dependency specifically.

The study lacked a sustained nursing group from the beginning of the study to the end. Due to the lack of retention of nursing employees it was difficult to increase nursing awareness on the importance of the CIWA scale and not just view it as a scale and to properly assess the patient going through alcohol withdrawal. The lack of education provided to nursing during orientation and not having competency assessment on the CIWA scale was viewed not as important as completion of nursing shift assessments and

care plans. The high level of travel nurses utilized on night shift was another limitation because they had not received orientation on the CIWA scale. As travel nurses they are expected to know what tools are used in within the psychiatry facility.

Implications for Future Projects

As the limitations were discussed above they should also be addressed in any future studies. Retention of nursing staff should be included in this, and proper training on the use of the CIWA scale so nursing staff feel confident in scoring and administering medication based on assessment skills. From the review of the literature, it was discussed how important it is for nurses to understand the purpose and use of this scale to properly detox patients and manage them effectively without any negative results.

The frequency of CIWA scoring is a very important process of alcohol withdrawal. It's imperative to know and administer the scale appropriately and be able to assess and act upon drug administration to manage patients detoxing from alcohol effectively which is the end goal of patient care. Proper training and competency education would be beneficial for nurses who are assessing from the CIWA scale and administering medication to manage the symptoms

Implications for Practice

Implications for policy and education of frequent CIWA scoring at the mental health drug and alcohol detoxification facility in Southeastern US have shown that nursing staff do not feel adequately trained on the importance and use of this scale which turned into withdrawal seizures requiring a higher level of care rather than within the detox facility. Nurses felt that the lack of education was setting them up for failure and

not understanding the use of the scale was a setback to them and the patients going through alcohol withdrawal. It would be valuable for the mental health drug and alcohol detoxification facility in Southeastern US to assess nursing orientation and education in this area of mental health. This in return can assess nursing competency on the scales used in the detoxing facility and could even possibly decrease nursing staff turnover rates making them feel properly trained and not just rushed through orientation to fill a spot.

Conclusion

The goal of this scholarly project was to increase frequent CIWA scoring in patients admitted inpatient with ICD 10 code alcohol dependency and to decrease alcohol-related withdrawal seizures by providing educational intervention for nursing staff. A comparison of three months (April-June 2023) before educational intervention and three months after (July- October 2023) intervention were assessed showed a decrease in alcohol-related withdrawal seizures and fewer patients sent out for a higher level of care. Another goal of this project was to hold nursing accountable for proper use and assessment of the CIWA scale.

This study heightened the awareness of the lack of education provided on the use of the CIWA scale to nursing staff at the hospital which required an intervention to be implemented. To sustain nursing attitudes and accountability, it's important to have proper orientation and training along with continuing competency education to decrease alcohol-related withdrawal seizures.

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APPENDIX

Appendix A

Questionnaire for Nurses (Pre- and Post-Intervention)

If results are requested of the survey to assess knowledge and attitudes of nursing staff on the use of the CIWA. This questionnaire is completely voluntary, and all information obtained will remain confidential. You may opt out or stop participating at any time without any repercussions. For any questions you may contact 417-4999784 by phone or by email heathermcmanis22@gmail.com or hholland@gus.pittstate.edu.

Rate your level of agreement with each statement using the following scale:
1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

Item	Rating				
1. I know how to properly complete a CIWA assessment scale.	1	2	3	4	5
2. I know the best frequency for completing a CIWA assessment on a detoxing patient.	1	2	3	4	5
3. I know when to give prescribed medication based on the patient's CIWA scores.	1	2	3	4	5
4. The patient's CIWA score helps me to determine when patients are actively detoxing.	1	2	3	4	5
5. I have confidence in scoring patients on the CIWA scale.	1	2	3	4	5
6. Sometimes there is not enough time to properly assess the CIWA score.	1	2	3	4	5
7. Sometimes I just write a CIWA score because I think the patient is drug seeking.	1	2	3	4	5
8. The training on CIWA scoring at this facility is adequate.	1	2	3	4	5
9. The frequency of CIWA scoring at this facility is adequate.	1	2	3	4	5

Answer the following questions:

10. What is the best frequency for completing a CIWA assessment on a detoxing patient?

11. What CIWA score would trigger administration of prescribed medication?

12. What barriers do you face in completing CIWA scoring?

Appendix B

Education and Case Studies for Nursing Staff

Background & Significance:

- Each year, approximately 1.2 million hospital admissions are related to alcohol abuse (Reoux, 2006).
- In 2019, alcohol-induced deaths increased by 26% (Spencer, et al., 2022).
- Healthcare providers need to recognize alcohol withdrawal symptoms and treat appropriately with use of the Clinical Institute Withdrawal Assessment (CIWA) scale and prevent complications (Reoux, 2006).

Purpose of the Educational Intervention:

- Increase the accuracy and frequency of CIWA scoring by nursing staff in patients detoxing from alcohol.
- Decrease the number of alcohol related seizures in a mental health inpatient setting.

CIWA-Ar Scale:

- Used to assess patients withdrawing from alcohol.
 - Ten signs and symptoms are assessed and a score is assigned for each one to determine a total score (Sharp, 2022).
 - Total score < or = 10: mild
 - Total score of 11- 15: moderate
 - Total score 16-67 = severe withdrawal

Reoux, Joseph P. (2006). A Comparison of Two Versions of the Clinical Institute Withdrawal Assessment for Alcohol: The CIWA-Ar and CIWA-AD. *The American journal on addictions* (1055-0496), 15 (1), p. 85.

Sharp, A. (2022). CIWA-AR Assessment for Alcohol Withdrawal. American Addiction Centers. <https://americanaddictioncenters.org/alcoholism-treatment/ciwa-ar-alcohol-assessment>

Spencer, M., Curtin, S., & Garnett, M. (n.d.). Alcohol-induced death rates in the United States, 2019-2020 – CDC. Retrieved April 7, 2023 from <https://www.cdc.gov/nchs/data/databriefs/db448.pdf>

Using the Clinical Institute Withdrawal Assessment for Alcohol – revised (CIWA-Ar) Scale (next page), score the following patients.

1. 28-year old female presents to the facility due to alcohol dependence. She denies any significant medical history, reports her last drink was yesterday at 0900, and drinks a half bottle of wine every other day with her breakfast. She is seen today at 1000 with complaints of mild headache, anxiety, and some nausea but is able to eat and drink well.

CIWA Score: _____

2. 57-year-old male present to the facility on a voluntary basis seeking treatment due to alcohol abuse and detox. He reports drinking one pint of whisky daily with his last drink less than 12 hours ago. He has a history of hypertension and diabetes mellitus. He complains of “pain all over”, nausea, vomiting, diarrhea, tremors, fatigue, sweating profusely, and he is not making sense when asked orientation. Additionally, he is unable to get out of bed.

CIWA Score: _____

Clinical Institute Alcohol Withdrawal Assessment (CIWA-Ar) Score Sheet	
	Score
<u>Nausea/Vomiting- Rate on Scale 0-7</u> 0-None, 1-Mild nausea-no vomiting, 4-Intermittent nausea with dry heaves, 7-Constant nausea-frequent dry heaves/vomiting	
<u>Tremors- Rate on Scale 0-7</u> 0-None, 1- Not visible but felt at fingertip to fingertip, 4- Moderate, arms extended, 7- Severe, even when arms not extended	
<u>Anxiety- Rate on Scale 0-7</u> 0- None, patient at ease, 1 – Mildly anxious, 4- Moderate, 7- Equivalent to acute panic state	
<u>Agitation- Rate on Scale 0-7</u> 0-Normal activity, 1-Somewhat more than normal activity, 4-Moderate fidgety/restless, 7-Pacing/constantly thrashing about	
<u>Paroxysmal Sweats- Rate on Scale 0-7</u> 0-None, 1- Barely perceptible/palms moist, 4- Beads obvious-forehead, 7- Drenching sweats	
<u>Orientation- Rate on Scale 0-4</u> 0-Orientated and can do serial additions 1-Cannot do serial addition or uncertain of date 2-Disoriented to date, no more than 2 calendar days 3-Disoriented to date > 2 days 4-Disoriented to place and/or person	
<u>Tactile Disturbances – Rate on Scale 0-7</u> 0-None, 1-Very mild itching, pins/needles, burning, numbness 2-Mild itching, pins/needles, burning, numbness, 3-Moderate itching, pins/needles, burning, numbness 4- Moderately severe hallucinations, 5-Severe hallucinations 6-Extremely severe hallucinations, 7-Continuous hallucinations	
<u>Auditory Disturbances- Rate on Scale 0-7</u> 0- None, 1- Very mild harshness or ability to frighten 2- Mild harshness or ability to frighten, 3- Moderate harshness, ability to frighten 4- Moderately severe hallucinations, 5-Severe hallucinations 6- Extremely severe hallucinations, 7- Continuous hallucinations	
<u>Visual Disturbances- Rate on Scale 0-7</u> 0- None, 1- Very mild sensitivity 2- Mild sensitivity, 3- Moderately severe sensitivity 4- Moderate sensitivity, 5- Severe hallucinations 6- Extremely severe hallucinations, 7- Continuous hallucinations	
<u>Headache- Rate on Scale 0-7</u> 0- None, 1- Very mild, 2- Mild, 3- Moderate, 4- Moderately Severe, 5- Severe, 6- Very severe, 7- Extremely severe	
<u>TOTAL CIWA SCORE</u>	
<=10: Mild, 11-15: Moderate, 16-67: Severe Withdrawal	

