

NURSES' KNOWLEDGE OF SIGNS AND SYMPTOMS
OF ANXIETY AND AGITATION

A Major Paper Presented

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A Major Paper Submitted in Partial Fulfillment
of the Requirements for the Degree of
Master of Science in Nursing

in

The School of Nursing
Rhode Island College

2015

Abstract

The diagnosis of mental illness is becoming more prevalent in the United States. With the increased identification, it is imperative that health care professionals are astute in identifying mental health conditions and behaviors associated with those conditions. The most common use of pro re nata (PRN) or “as needed” psychoactive medications in the inpatient psychiatric setting is for the reduction of behaviors associated with anxiety, agitation, and aggression. The administration of PRN medication rests solely on the nursing staff and their ability to use autonomous clinical decision-making to distinguish between different behaviors associated with those conditions prior to the administration of PRN medication. For the past 30 years, research has recognized the lack of national standards, assessment criteria, and ethical practices when administering PRN medications in the acute inpatient setting. The purpose of this study was to identify nurses’ knowledge of signs and symptoms of anxiety or agitation in the acute care setting. The model used to guide this research is the Synergy Model of Patient Care. The design for this research study was a descriptive design using a case study approach. This study was conducted at a nonprofit, general medical-surgical community hospital in Rhode Island specializing in rehabilitation and psychiatric services. The target sample consisted of all registered nurses working on three study units. Two case studies, each portraying a patient experiencing symptoms or behaviors of anxiety and agitation were used to measure nurses’ knowledge of signs and symptoms of anxiety and agitation. A total of 17 RNs (N=17) participated in this research project. This research implied that there were gaps in clinical knowledge and variations in practice when nurses were asked to recognize symptoms of anxiety or behaviors associated with agitation.

Acknowledgements

This author would like to thank Patricia Calvert for being her first reader, Cynthia Padula for being her second reader and the reason she went back to seek higher education and Barbara Forloney for being her third reader and the inspiration behind this research project. You all have given me so much of your time, support and dedication – I will forever be grateful.

To Karen Schaefer and Cynthia Ruggiero... We started out on this journey together and I can't imagine getting through it without you.

I would also like to thank my family for their endless support. To my children Courtney, Crista, Cayla, and Craig... you will forever be my greatest achievement. To my husband Craig- you are my rock! You have always been my best supporter for doing something more for myself. I love you all!

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Nurses' Knowledge of Signs and Symptoms of Anxiety and Agitation

Background and Statement of the Problem

The diagnosis of mental illness is becoming more prevalent in the United States. All diagnosable psychiatric conditions can fall under the category of mental illness (Centers for Disease Control and Prevention [CDC], 2013). According to the National Alliance on Mental Illness, approximately 61.5 million Americans or one in four adults experience mental illness yearly and approximately 13.6 million people were diagnosed as having a more serious psychiatric condition such as major depression, schizophrenia, or bipolar disorder (National Alliance on Mental Illness [NAMI], 2013).

Mental illness impairs a person's daily functioning by altering mood, behaviors, and the ability to think clearly and can be more disabling than cancer or heart associated conditions (CDC, 2013). It is estimated that the yearly cost of disability associated with severe mental illness has escalated to nearly 193.2 billion dollars, with depression being the third most common reason for hospitalization among adults 18-44 years of age (NAMI, 2013). Persons with mental illness have increased likelihood of suffering from a chronic medical disease and their average mortality rate decreases by 25 years compared to those with a treatable medical diagnosis and no mental illness (NAMI).

In a 2011 report issued by the National Survey on Drug Use and Health, Rhode Island ranked #1 in the nation for mental illness and severe mental illness for adults 18 or older. Rhode Island's adult population had a percentage of mental illness at 24.2%, with 7.2% of adults having severe mental illness, as compared to the national average of 19.7% and 4.6% respectively (National Survey on Drug Use and Health, 2011). In a statement issued by Vivian Weisman, who is the executive director of the Mental Health

Association of Rhode Island at the time of this report, these results may be in part due to the increased identification of mental illness in this state (Nesi, 2011). With the increased identification of mental illness in the state and nation, it is imperative that health care professionals are astute in identifying mental health-related conditions and behaviors associated with those conditions.

When a patient is admitted to an inpatient psychiatric unit, it is usually because he/she is exhibiting an acute exacerbation of a mental illness that could not be treated in the outpatient setting (Hilton & Whiteford, 2008). During this critical phase of initial treatment, pro re nata (PRN) or 'as needed' medications are routinely utilized to aid in the management of behaviors and symptoms associated with their conditions (Hilton & Whiteford, 2008; Usher, Baker, Holmes & Stocks, 2009). Nurses who work with the mental health populations have the daunting responsibility of interpreting these behaviors and administering psychoactive medications to manage those behaviors.

The most common use for PRN psychoactive medications in the inpatient psychiatric setting is for the reduction of behaviors associated with anxiety, agitation, and aggression (Usher & Luck, 2004; Winship, 2010). This responsibility rests solely on the nursing staff and their ability to use autonomous clinical decision-making to distinguish between different behaviors associated with those conditions prior to the administration of PRN medication (Hilton & Whiteford, 2008; Usher et al., 2009). Approximately 75% of hospital psychiatric patients receive PRN medications and there are presently few studies that explore nurses' rationale for the decision-making processes when administering those medications (Stein-Parbury, Reid, Smith, Mouhanna, & Lamont, 2008; Usher et al., 2009; Winship, 2010).

For the past 30 years, research has recognized the lack of national standards, assessment criteria, and ethical practices when administering PRN medications in the acute inpatient settings, hence necessitating the need for universal practice guidelines (Hilton & Whiteford, 2008). Nurses routinely utilize critical-thinking skills and decision-making when administering ‘as needed’ or PRN medications in the acute care setting. A problem identified in nursing practice is the lack of universal descriptive guidelines for nurses to follow when administering ‘as needed’ or PRN psychoactive medication (Hilton & Whiteford, 2008). There are few standardized guidelines for nurses to follow when patients exhibit signs and symptoms of anxiety or agitation; common symptoms related to patients suffering from a mental illness. This places a great deal of responsibility on nursing staff and assumes that all nurses are knowledgeable in identifying such behaviors. In a review of PRN practice standards conducted by Hilton and Whiteford (2008), the authors suggested that research implies that many nurses in the psychiatric field lack key knowledge and expertise when assessing patients’ behaviors and may administer PRN medications inappropriately. Baker and colleagues (2007) conducted a face-to-face interview with 59 mental health workers. Their purpose was to examine clinical practices associated with the administration of PRN psychoactive medication and the prescriptive practices within acute inpatient psychiatric settings. Results suggested that nursing inexperience, acute circumstances, and inadequate staffing may influence the inappropriate administration of PRN psychoactive medication and that PRN medications were often given when nonpharmacological methods might have been used (Baker). This may further suggest that nurses in this field are not utilizing best

evidence-based practices or ethical considerations to promote positive patient outcomes when serving this population.

It is this researcher's observation that it is standard practice for prescribers at the study site to regularly order PRN psychoactive medications for 'anxiety' or 'agitation' but no identifiable behaviors relating to those conditions. It is up to the individual nurse to interpret behaviors for those conditions prior to the administration of PRN medication. In addition, it was also commonly noted that prescribers ordered multiple PRN psychoactive medications and routes for anxiety, agitation, or severe agitation, requiring nurses to distinguish between different symptoms or behaviors and determine which PRN medication and route to administer.

Although the majority of PRN psychoactive medications are ordered in inpatient psychiatric units, PRN medications may be ordered in all acute care settings for patients that exhibit anxiety or agitation. Patients in the critical care, medical/ surgical, cardiac, and orthopedic units may experience anxiety or agitation for various reasons while hospitalized. For example, patients in the critical care units may experience anxiety as a result of constant intrusions, loud noise, monitors, hospital routine, and frequent testing (Aitkin, Marshall, Elliott, & McKinley, 2008). This may also be confounded by a patient's inability to communicate effectively, restricted mobility, and fear of disability or death (Frazer et al., 2002).

Currently, psychoactive PRN medications are ordered for anxiety or agitation without descriptive symptoms or behaviors illustrating those conditions. Universal descriptive behaviors would be advantageous to nurses in the acute setting when differentiating between symptoms of anxiety or behaviors related to agitation during

acute psychiatric episodes. By adding the clarity of identifying observed behaviors as anxiety or agitation related, appropriate PRN medication may more likely be administered and positive patient outcomes achieved.

The purpose of this study was to identify nurses' knowledge of signs and symptoms of anxiety or agitation in the acute care setting. Next, a review of the relevant literature will be presented.

Literature Review

A comprehensive literature review was completed which included the years 1959 to 2015, and included search engines CINAHL, Pub Med, Ovid, Medline, and Google Scholar. The following key words were searched: anxiety; agitation; signs and symptoms of anxiety and agitation; anxiety symptoms; agitation behaviors; nurse's knowledge of anxiety or agitation; nursing assessment of anxiety or agitation; anxiety characteristics; PRN; mental illness; anxiety tools; agitation tools; anxiety treatment; and anxiety and agitation scales. This literature review will provide an overview of the following areas: definition of anxiety; definition of Generalized Anxiety Disorder; anxiety measures; definition of agitation; agitation measures; management of agitation; and RN assessment.

Anxiety: Definition

Anxiety is a common, subjective human emotion that can be defined as a feeling of uneasiness, uncertainty, worry, or fear that triggers the body's stress response in reaction to a perceived or real threat (Frazier et al., 2002). In most cases, anxiety is a normal defense mechanism and helps healthy individuals cope with stressors by creating heightened awareness within their surroundings. This reaction may be referred to as the "fight or flight response" (McGrandles & Duffy, 2012). With this response, the sympathetic nervous system and hypothalamic-pituitary-adrenal axis prepare for a situation that an individual may perceive as threatening, which may result in physiological changes such as increased cardiac output, pulse, blood pressure, and increased oxygen demand. Increased morbidity and mortality in patients with heart failure and acute myocardial infarction are associated with these responses (Frazer et al., 2002).

In order to successfully identify anxiety, it is first essential to understand the varying levels of anxiety. There are four levels of anxiety described by Hildegard Peplau, a renowned and respected nurse who had a profound lifetime effect on the professional practice of psychiatric nursing. She proposed that each level of anxiety varies according to the severity of the patient's presenting symptoms. These levels are defined as mild, moderate, severe, or panic. Mild anxiety is characterized as a normal physiological reaction to routine stressors in which problem solving is more effective. A patient with this level of anxiety may present with restlessness, irritability, or complaints of slight discomfort. Behaviors such as nail biting, finger or foot tapping, or fidgeting may also occur but are typically mild in nature. Moderate anxiety occurs as one's anxiety increases and the ability to problem solve and comprehend information decreases. Due to an inability to think clearly when undergoing this level of anxiety, one may also experience selective inattention. This involves difficulty discriminating between certain objects in one's environment. Some physical symptoms associated with moderate anxiety include tension, pounding heart, increased pulse and respiratory rate, perspiration, gastric discomfort, headache, urinary urgency, voice tremors, and shaking. For both mild and moderate anxiety, it's important to determine the reason for the anxiety and if it is helping or harming the individual (Varcarolis & Halter, 2010).

As anxiety goes beyond the moderate level, severe anxiety ensues. At this point, a person is not able to learn new skills, problem solve, or easily figure out what is going on around them. Symptoms that are commonly associated with this level of anxiety include a worsening headache, nausea, loud and rapid speech, withdrawal, threats and

demands, dizziness, confusion, insomnia, trembling, a pounding heart rate, hyperventilation, and a sense of impending doom (Varcarolis & Halter, 2010).

The most intense level of anxiety is panic. Once anxiety has escalated to this extreme, the environment is almost completely blocked out, as if the events are not taking place. As a result, the individual's physical behavior becomes unpredictable and spontaneous, and they may begin to pace, run, shout, scream or withdraw. Symptoms characteristic of panic include severe hyperactivity or immobility, dilated pupils, severe shakiness, experiences of terror, sleeplessness, severe withdrawal, hallucinations or delusions, and exhaustion as a result of psychomotor agitation. Intervention is typically a necessity once escalation to severe anxiety and panic has occurred (Varcarolis & Halter, 2010). When anxiety symptoms are identified lasting more than six months, an anxiety disorder may be diagnosed (American Psychiatric Association [APA], 2013).

There are many anxiety-related conditions that fall under the category of anxiety disorders. These differential disorders may include generalized anxiety disorder (GAD), panic disorders, phobias, post-traumatic stress disorder, obsessive-compulsive disorder, substance-induced anxiety disorder, acute stress disorder, anxiety due to medical conditions, and anxiety disorder not otherwise specified (Varcarolis & Halter, 2010). Although there are several anxiety disorders, only components of Generalized Anxiety Disorder (GAD) will be discussed.

Generalized Anxiety Disorder: Definition

According to diagnostic criteria outlined in the *Diagnostic and Statistical Manual of Mental Disorders; Fifth Edition* (2013) or DSM-5, adults are diagnosed with GAD when they: exhibit excessive worry and anxiety that occurs more often than not for at

least a six month timeframe; have difficulty controlling their worry; are associated with three out of six symptoms of anxiety; demonstrate significant clinical impairments in social, occupational, or daily functioning; have symptoms not related to physiological effects of a substance or another medical condition; and are not attributed to another psychiatric condition. The six descriptive symptoms of anxiety include restlessness or feeling on edge or keyed up, being easily fatigued, difficulty concentrating or mind going blank, irritability, muscle tension, and sleep disturbances (APA, 2013). Research implies that there is debate over the six-month stipulation for diagnosis of GAD, according to the DSM diagnostic criteria, as patient symptoms may fluctuate; excluding them from a definitive diagnosis and treatment (Kavan, Elsasser, & Barone, 2009).

Anxiety Measures

There are various commonly used tools or scales in the literature available to help clinicians identify patient anxiety such as: the Hospital Anxiety and Depression Scale (HADS), the Hamilton Anxiety Rating Scale (HAM-A), and the State-Trait Anxiety Inventory for Adults (STAI). The Hospital Anxiety and Depression Scale (HADS) is a 14 self-assessment questionnaire, initially developed in 1983 by Zigmond and Snaith, to detect anxiety and depression in patients hospitalized for various conditions. There are seven questions allocated for the detection of anxiety (HADS-A) and seven questions allocated for the detection of depression (HADS-D). The main purpose of this measure is not to diagnose psychiatric conditions but to better identify symptoms of anxiety or depression in hospitalized patients that may need additional psychiatric evaluation (Michopoulos, et al., 2008). This is one of the most widely used scales today and is specific in identifying pathological anxiety by recognizing symptoms of anxiety that may

be associated with other medical illnesses (McGrandles & Duffy, 2012). In a comprehensive review conducted by Julian (2011), a comparison was made on different measures of anxiety including the HADS scale. It found that 11 out of 19 psychometric studies supported the use of the HADS-A subscale as an independent measure for the identification of anxiety. In a community cohort review, specificities reached 90% and in the primary care population, a high of 93% specificity was observed. The authors concluded that the overall validity of the HADS was considered to be “good” to “very good” and supported the usage of the HADS as a brief screening tool for measuring general anxiety.

The Hamilton Anxiety Rating Scale (HAM-A), first developed by M. Hamilton in 1959, is a 14 self-assessment questionnaire designed to measure the severity of anxiety symptoms by measuring physical complaints and psychological factors (Hamilton, 1959; Psychiatric Times, 2013). The HAM-A is well known in research today as it encompasses features related to respiratory, gastrointestinal, and cardiovascular symptoms associated with anxiety (McGrandles & Duffy, 2012). Each item listed in the questionnaire is rated according to a five-point Likert-type scale ranging from 0-4. Severe anxiety is consistent with higher scores (Kummer, Cardoso, & Teixeira, 2010). In a study conducted by Kummer and colleagues (2010), the HAM-A was used to investigate GAD in patients with Parkinson’s disease (PD). In this study, the reliability of the HAM-A was 0.893, supportive of good internal consistency for use of the HAM-A as a tool to assess anxiety in patients with PD (Kummer et al., 2010).

The State-Trait Anxiety Inventory for Adults (STAI), first developed by Charles Spielberger, is a 40-item self-evaluation questionnaire that is subdivided into two scales:

(State) or S-Anxiety scale that assesses for the current state of anxiety or how a patient feels presently and the (Trait) or T-Anxiety scale that assesses for the frequency of general feelings of being anxious. This tool takes approximately 10 minutes to administer and is rated using a 4-point Likert scale (Julian, 2011). In research conducted by Julian (2011), different measures of anxiety were compared for use in assessing anxiety specific to patients with rheumatic disease. The STAI was reported to have “good” reliability with a moderate level of validity when assessing psychometric properties relating to anxiety with this patient population (Julian, 2011). This scale is considered by some to be the “gold standard” in the assessment of anxiety in the in-patient setting as well as with the community population (Michopoulos et al., 2008).

Although each of these tools demonstrates utility in identifying anxiety, nurses need to rely on immediate critical thinking skills when treating patients that have acute episodes, especially if patients do not have a previous anxiety screening or diagnosis. In a study conducted by Shuldham and colleagues (1995), the need to assess anxiety in hospitalized patients was recognized. Although this is an older study, it identified anxiety as a nursing diagnosis and that it is within a nurse’s scope of practice to detect anxiety-defining characteristics leading to diagnosis (Shuldham, Cunningham, Hiscock, & Luscombe, 1995).

Despite the number of available measures, emotional or physical symptoms of anxiety often go untreated in the acute care setting (McGrandles & Duffy, 2012). Older adults are considered a vulnerable group as research suggests that anxiety disorders are the most prevalent mental condition for this patient population (Jayasinghe, Rocha, Sheeran, Wyka, & Bruce, 2013). In later life, anxiety symptoms are usually present

when patients have additional medical comorbidities, psychological, and neurological conditions (Smith, Ingram, & Brighton, 2009). When this occurs, anxiety may lead to agitation.

In a study conducted by Twelftree and Qazi (2006), a positive correlation was found between anxiety and agitation in patients with dementia. This study used the Rating for Anxiety in Dementia (RAID)) and the STAI-S to measure anxiety and used the Cohen–Mansfield Agitation Inventory (CMAI) scale to measure agitation in 40 dementia patients. They suggested that anxiety signifies symptoms of internal feelings while agitation is more defined by descriptive behaviors. Their literature review revealed two main concepts. The first concept described the expression of agitation as the result of underlying anxiety and the second concept implied that anxiety could often be conveyed as agitation. They also noted that anxiety and agitation are two distinct entities and efforts should be made to distinguish between the two. Their findings indicated that anxiety is associated with agitation in dementia patients but further concluded that agitation is not necessarily an indicator that a dementia patient has anxiety (Twelftree & Qazi, 2006). Although this study highlights the older patient suffering from dementia, the results imply the need for early recognition and interpretation of signs of anxiety before an escalation in behaviors associated with agitation can occur. The results also suggest the need for accurate assessment in differentiating between signs of anxiety and behaviors related to agitation.

Agitation: Definition

Agitation can be defined as an unpleasant state of extreme arousal (National Institutes of Health, 2014) or an inappropriate use of excessive verbal and/or motor

behavior that can be deemed as disruptive, hostile, loud, threatening, hyperactive, and/or combative (Zeller, 2012). Agitation is common among all age groups in clinical practice, especially in various inpatient settings (Bostwick & Hallman, 2013). Most common settings where agitation is displayed include emergency departments, psychiatric units, critical care units, and in settings where older patients have a history of dementia (Bradas & Mion, 2011; Bostwick & Hallman, 2013).

Agitation is a broad term that can be described by specific behavioral signs and symptoms. Signs and symptoms of agitation may include: restlessness; paranoia; aggression; impulsiveness; combativeness; hallucinations; disinhibition; hyperactivity; resistance to care; verbal abuse; wandering; hypersexuality; yelling; shouting; pacing; throwing objects; grabbing; and intrusive behaviors (Kyomen & Whitfield, 2008). When patients present with these behaviors, appropriate clinical assessment is needed to initially determine underlying clinical manifestation and minimize the unnecessary usage of pharmacological intervention, physical restraint, or seclusion (Bostwick & Hallman, 2013). Failure to recognize agitation in patients may impact length of stay in inpatient settings, health care costs, and lead to negative patient outcomes (Bostwick & Hallman). Failure to identify these behaviors in the acute care setting may lead to unnecessary use of pharmacological or physical restraint, which may lead to increased behaviors and inpatient falls (Bradas & Mion, 2011).

In a study conducted by Boudreaux and colleagues (2009), a structured chart review tool was designed to assess and manage psychiatric patients in the ED. This idea was based on the premise that there is little statistical data surrounding the overall identification of agitation, PRN administration, or use of restraints in that setting. Out of

400 reviewed charts, 220 patients were identified as being agitated; 98 patients received pharmacological intervention to reduce agitated behaviors, 22 patients needed physical restraint, and 179 patients were admitted to inpatient psychiatric units (Boudreaux et al., 2009). This data illustrates the high volume of patients demonstrating agitation in the psychiatric emergency setting and the possible implications for improved efforts when assessing and managing this patient population.

Agitation Measures

There are several patient assessment methods available for clinicians to utilize in order to identify agitation or aggression and manage behaviors. The Cohen-Mansfield Agitation Inventory (CMAI) is a well-known 29-item list of descriptive behaviors that is utilized to help clinicians determine the average frequency of agitated behaviors within two weeks prior to completing the assessment tool. Each behavior is ranked with a frequency range from 1-7 with 1 indicating 'never' and 7 indicating 'several times an hour'. The long version of this tool is primarily used in long-term settings by caregivers; however, a shorter 14-item version is available for clinicians to rate the frequency of agitated behaviors using a five point scale (Boustani et al., 2005; Cohen-Mansfield, 1991). Twelftree and Qazi (2006) utilized the CMAI tool to measure agitation in patients with dementia. They stated that this questionnaire is the most widely used and validated measure of agitation for this patient population. In a study conducted by Desrosiers and colleagues (2014), the CMAI was used with long term residents to test the frequency of physical and verbal agitation during care. The authors determined that the internal consistency for daytime, evening, and nighttime use at 0.86, 0.91, and 0.87 respectively

and its inter-rater equal to 0.82 and at re-test 0.83 which is considered “good” reliability (Desrosiers).

The Modified Overt Aggression Scale (MOAS) is used to rate a person’s self-assessment of aggressive behaviors during a one-week period. It is categorized according to statements regarding four types of aggression: verbal aggression; aggression against property; autoaggression; and physical aggression. Items are scored according to a 5-point scale ranging from 0-40; higher scores being indicative of more aggression. This tool has been of particular value in the outpatient setting (American Academy of Pediatrics, 2010). In comparison, the Nurse’s Observation Scale for Inpatient Evaluation (NOSIE) is a 30-item tool designed to identify behaviors in an in-patient setting. This observation scale provides staff with an understanding of patient behaviors and changes in baseline over a three-day history. This tool has been useful because it is brief and easy to use to measure inpatient progress, especially with nonverbal patients (Psychiatric Nursing, 2013).

A study was conducted by Margari et al (2005) which tested validity and reliability in terms of inter-rater and internal consistency for both the MOAS and NOSIE scales. The scales were used on 358 psychiatric in-patients. For validity, the MOAS compared patients illustrating aggression to in-patients that displayed seemingly non-aggressive behavior. The NOSIE compared general acute inpatients to patients with unwavering behavior. The inter-rater reliability was 0.90 for MOAS and 0.75 for NOSIE suggesting good reliability. The NOSIE demonstrated good internal consistency with the exception of one category. Results revealed that both scales showed good psychometric properties, although the MOAS results were higher. They concluded that their study

validated the use of both scales when monitoring agitated behaviors and aggression in inpatient psychiatric settings (Margari).

Management of Agitation

The priority in formulating treatment goals for agitated patients is safety for both patient and health care providers. The protection of agitated patients is essential especially when their behaviors, such as attempting to climb out of bed, removing therapeutic devices such as intravenous lines or oxygen masks, or restlessness, compromises their safety (Bradas & Mion, 2011). It is first imperative that an underlying medical illness is ruled out in order to establish the basis for agitated behaviors. Some clinical conditions leading to agitation include anxiety disorders, mania, substance withdrawal, alcohol intoxication, hypoxia, thyroid disease, head trauma, hypoglycemia, infections, or pain (Bostwick & Hallman, 2013). Once a diagnosis is identified, pharmacological intervention may be necessary to ensure patient safety and management of treatment goals once admitted to an in-patient unit (Bostwick & Hallman, 2013). Research suggests that PRN psychoactive medications are typically administered within the first few days of admission and nurses are given a wide range of medication choices, dosages, and routes to utilize (Usher & Luck, 2004). By reducing behavioral symptoms early on, patients may be better able to engage in therapeutic treatment and therapy aimed at patient recovery (Stein-Parbury et al., 2008). Therefore, it is vital that nurses are knowledgeable regarding current evidence-based practices related to PRN psychoactive medications and their usage such as: when to administer a drug; what medication would be most effective in treating symptoms; what route should be given; and how much of a

psychoactive medication should be utilized to promote best outcomes (Usher & Luck, 2004).

Due to increased regulations issued by governmental bodies on the reduction of psychoactive medication and physical restraint use on agitated patients (Centers for Medicare & Medicaid Services [CMS], 2013), nurses need to be accurate in their clinical decision-making when recognizing signs and symptoms of anxiety or behaviors associated with agitation in the acute care setting. Pharmacological treatment is often used to calm patients in acute distress and frequently in older patients with delirium. Antipsychotics are routinely used to help manage symptoms; however, there are a number of adverse reactions associated with their use. For example, older patients with dementia may experience prolonged sedation, orthostasis, constipation, urinary retention, tardive dyskinesia, prolonged QT syndrome, increased confusion, and dizziness which may contribute to in-patient falls (Bradas & Mion, 2011). Early identification of signs and symptoms of agitation in this population may promote early interventions that improve patient outcomes by reducing the need for PRN dosing or restraints (Bradas & Mion, 2011).

RN Assessment

Although there are a number of standardized scales used in clinical settings to assess and diagnose anxiety or agitation, research infers that there is a lack of guidance in regard to individual symptom recognition for nurses when administering psychoactive PRN medication (Hilton & Whiteford, 2008). The Clinical Institute Withdrawal Assessment-Alcohol, Revised (CIWA-AR) is an assessment scale available to determine the use of PRN medication in patients suffering from alcohol withdrawal. This

comprehensive assessment allows nurses to dispense fixed-doses of PRN medication according to signs and symptoms specified in the protocol (Riddle, Bush, Tittle & Dilkhush, 2010). In a study conducted by Riddle and colleagues (2010), an evidenced-based order set was developed that could be used to recognize and manage alcohol withdrawal in critically ill patients and non-critical patients. The purpose of their study was to determine whether the treatment of alcohol withdrawal was more effective using a symptom-based treatment or by using a dose-scheduled treatment. The authors concluded that patients that were treated using a symptom-based order set received PRN medications fewer days and had more positive outcomes than patients that did not have an order set (Riddle et al., 2010). This study illustrated that patient outcomes were improved when nurses recognized symptoms related to alcohol withdrawal and administered appropriate medication for treatment under the described guidelines. This may also imply that descriptive symptoms or behaviors listed enhanced nursing recognition, which led to better patient outcomes.

Next, the theoretical framework that guided this research study will be presented.

Theoretical Framework

The model used to guide this research is the Synergy Model of Patient Care illustrated in Figure 1.

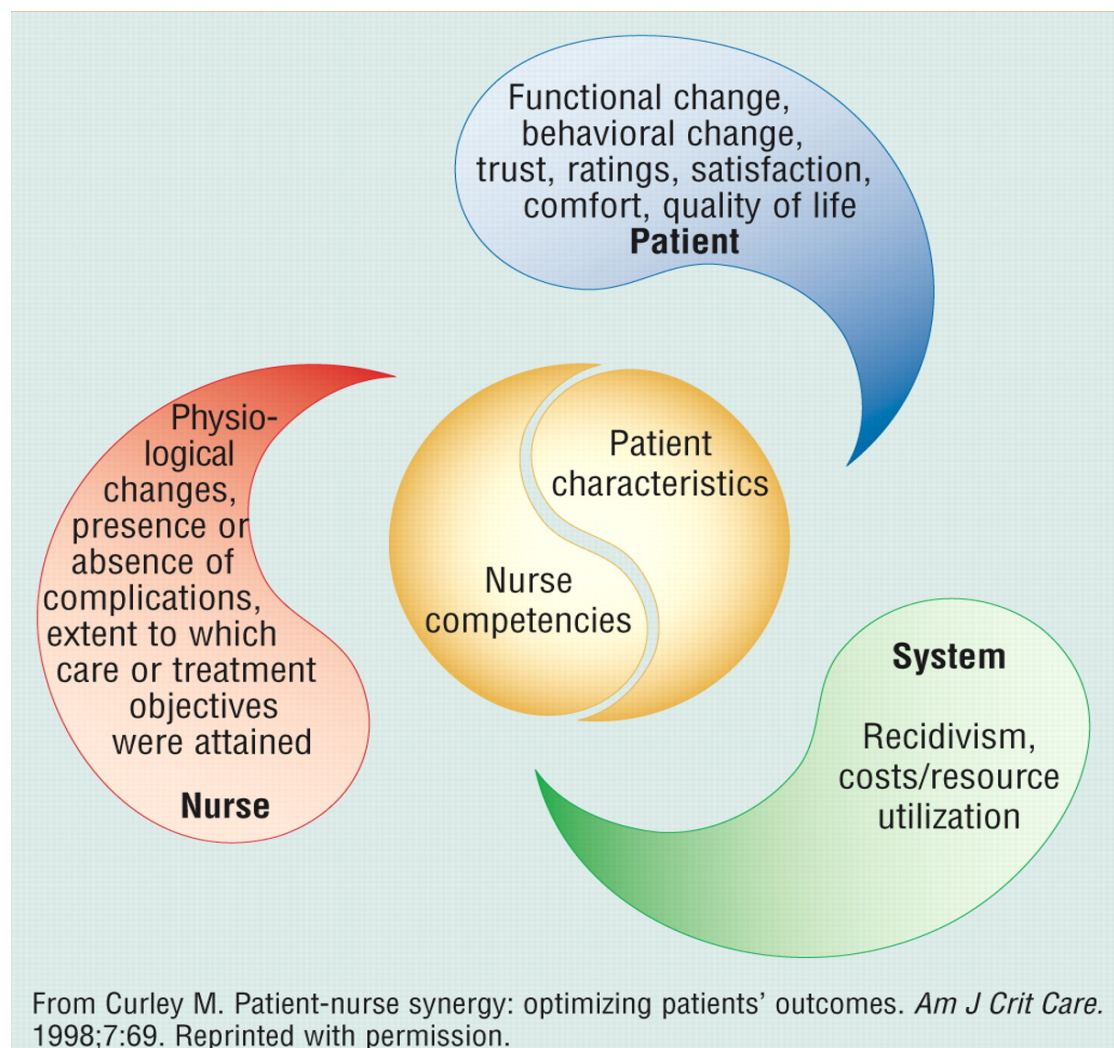


Figure 1. Synergy Model of Patient Care

The Synergy Model of Patient Care was first developed by a team of critical care nurses of the American Association of Critical Care Nurses (AACN) in the 1990's (McEwen & Wills, 2011). Initially, the Synergy Model of Patient Care was designed to assemble the AACN certification examination by identifying nursing competencies that reflect nursing practices to critically ill patients (McEwen & Wills, 2011). Martha A. Q.

Curley (1998), who is acknowledged as being a pivotal person in the development and the implementation of this model, defined synergy as “an evolving phenomenon that occurs when individuals work together in mutually enhancing ways toward a common goal” (pg. 64). The synergy that exists between a patient, nurse, and health care institution from which the patient receives care, are a main concept of this model (Curley, 1998).

The Synergy Model of Patient Care focuses on optimizing positive patient outcomes. This can be accomplished by identifying eight patient characteristics and eight nursing competencies specific to a patient’s healthcare experience (Curley, 2007; McEwen & Wills, 2011). The patient characteristics distinctive to patients and their hospital situation are stability, complexity, predictability, vulnerability, resiliency, participation in decision- making, participation in care, and resource availability (Curley, 2007; McEwen & Wills, 2011). The eight nurse driven competencies are clinical judgment, clinical inquiry, advocacy/ moral agency, response to diversity, caring practices, collaboration, systems thinking, and facilitator of learning (Curley, 2007; McEwen & Wills, 2011). Ideally, when the eight patient characteristics and eight nursing competencies are synergistic, positive patient outcomes are achieved (Curley, 2007; McEwen & Wills, 2011).

The Synergy Model of Patient Care can be utilized as a basis for theoretical framework to identify nurses’ knowledge of signs and symptoms of anxiety or agitation. This model represents a relationship between the patient and the nurse, which further exemplifies the positive patient outcomes desired for every patient within all health care settings. Specifically in the mental health setting, psychoactive medications are regularly

ordered. Nurses are frequently asked to administer these medications based on their clinical assessment of a patient's behavior. It is especially important that nurses have a clear understanding of signs and symptoms related to these conditions in order to administer the appropriate PRN medication for these behaviors. Synergy exists between patients, nurses, and the institution when nurses are able to expertly assess behaviors associated with anxiety or agitation, administer PRN medications according to those behaviors, and when patients transition through the health care setting having positive outcomes (Curley, 2007; McEwen & Wills, 2011).

The following section will illustrate the methodology used in this study.

Methodology

Purpose

The purpose of this study was to identify nurses' knowledge of signs and symptoms of anxiety and agitation in the acute care setting.

Design

The design for this research study was a descriptive design using a case study approach.

Site

This study was conducted at a non-profit, general medical-surgical community hospital in Rhode Island specializing in rehabilitation and psychiatric services. Three acute care units were studied; Unit #1 was a 30-bed medical-surgical unit, Unit #2 was a 30-bed locked adult psychiatric unit, and Unit #3 was a 21-bed locked geropsychiatric unit specializing in the care of patients with dementia and Alzheimer's disease.

Sample

The target sample consisted of all registered nurses (RNs) working on study units. No exclusions applied to participants. Participants in this study remained anonymous and participation was voluntary. To create awareness and motivation for participation in the study, this researcher developed an IRB approved flyer (Appendix A) that was placed on each study unit in a designated area suggested by unit nurse managers. Consent to participate was implied when nurses read an Institutional Review Board (IRB) approved informational letter from the facility (Appendix B) and completed case studies. This informational letter included the rationale for study, implied consent if nurses chose to participate, and anonymity of participation.

Procedures

Permission to conduct this study at this facility and designated study units was obtained from the Director of Special Projects and Initiatives (Appendix C). Institutional Review Board (IRB) approval was obtained from the hospital's IRB and Rhode Island College IRB. After approval was granted, this MSN student was introduced to nurse managers of each participating unit one week prior to the start of the project. Each nurse manager was given the informational letter explaining the research project, a copy of the motivational flyer, a copy of Case Study #1 (Appendix D) and Case Study #2 (Appendix E), and a demographic profile (Appendix F), developed by this researcher, prior to our meeting for review. The motivational flyer was placed on each unit encouraging nurse participation and the date the results were to be collected. The informational letter explaining the research project and instructions on how to complete case studies was stapled to the outside of a manila envelope. The manila envelope contained the two case studies and demographic profile (enough for every RN on each study unit) and placed in an area suggested by nurse managers on each unit. A sealed box was placed on each unit for nurses to place completed case studies. Nurses on each study unit had four weeks to complete both case studies. An additional sealed box was placed on each unit if nurses chose to submit their name to earn a participation reward. Nurse Managers were contacted each week by this researcher to encourage staff participation through announcements during staff meetings, huddles, and via staff e-mail. This researcher went to each unit during the night, day, and evening shifts to explain the research project and encourage participation from staff.

There were no ethical considerations noted while conducting this research. Nurses who completed the case studies were anonymous and participation voluntary. Consent was implied with nurses' participation. Completed case studies were in a sealed box and there were no identifiable markers attached to completed case studies. Data was collected by this researcher and kept in a locked file that only this researcher had access to. After the completion of this study, all data collected were destroyed. Additionally, participation rewards were disseminated upon completion of this research project.

Measurement

Two case studies, each portraying patients experiencing symptoms or behaviors of anxiety and agitation as identified in the literature review, were developed by this researcher. Table 1 on the next page was developed to list common signs and symptoms of anxiety and common behaviors related to agitation that may be observed in the acute care setting.

The list of common symptoms of anxiety were mostly derived from the accomplished work by Hildegard Peplau and from the DSM-5. The list of common behaviors relating to agitation was comprised from the Cohen-Mansfield Agitation Inventory (CMAI). This list served as the basis for an answer key for Case Study #1 (Appendix G) and Case Study #2 (Appendix H) when correcting the case studies. A Gero-Psychiatric APRN served as a content expert and validated each case study for realism, practicality, and authenticity of symptoms and/or behaviors of anxiety and agitation. Study participants were asked to review the two case studies and to identify symptoms or behaviors as either associated with anxiety or agitation in each case study.

Table 1

Common Signs and Symptoms of Anxiety and Common Behaviors of Agitation Identified from Literature Review.

SIGNS AND SYMPTOMS OF ANXIETY	BEHAVIORS RELATED TO AGITATION
Pounding heart	Restlessness (observed motor)
Perspiration	Paranoia
Gastric discomfort	Aggression
Dizziness	Impulsiveness
Muscle tension	Hallucinations
Tremors, twitches, fidgeting	Disinhibition
Headaches	Combativeness
Fatigue	Intrusiveness
Sleep disturbances/ insomnia	Pacing
Increased pulse	Yelling
Increased respirations	Shouting
Restlessness (subjective complaint)	Throwing Objects
Irritability	Resistance to Care
Feeling of apprehension or dread	Wandering
Trouble concentrating	Grabbing
Feeling like your mind is “blank”	Hypersexuality
Nervousness	
Hyperventilation	
Expression of worry or fear	

Instructions on how to complete case studies were at the top of each case study.

Nurses were asked to write either the identified word, phrase, or sentence under a column labeled “signs of anxiety” or column labeled “agitation behaviors” at the end of each case study. In addition, participants were asked to answer a demographic profile. The demographic profile consisted of; gender, age range, educational background, and years practicing as a nurse. A final question was included that asked nurses whether they would find defining symptoms or behaviors of anxiety or agitation useful in orders prescribing PRN psychoactive medication for “anxiety” or “agitation”.

Data Analysis

Correct answers from the case studies were calculated and the results were illustrated using tables; answers were considered correct if the symptoms and behaviors embedded within each case study were correctly identified. A unique answer key was developed for each case study and used when evaluating the responses to the case. The answer keys were validated by the Gero-Psychiatric APRN. Symptoms and/or behaviors identified in the case studies by participants were compared to the symptoms and/or behaviors identified by the researcher and validating expert.

In Case Study #1 (Appendix D), there were 10 words, phrases, or sentences illustrating symptoms of anxiety and 10 words, phrases, or sentences demonstrating behaviors of agitation. To measure nurses' knowledge of anxiety, 1 point per symptom for a total of 10 were given for correct symptoms. For agitation, 1 point per behavior for a total of 10 given for correct behaviors. In Case Study #2 (Appendix E), there were 11 words, phrases, or sentences demonstrating symptoms of anxiety and 14 words, phrases, or sentences characteristic of agitated behaviors. To measure nurses' knowledge of anxiety, 1 point was given for a total number of 11 for correct symptoms. For agitation, 1 point was given for a total number of 14 for correct statements illustrating agitated behavior. All completed case studies were corrected and compared to this researchers answer key.

Next, the results will be presented.

Results

A total of 17 RNs participated in this research project; Unit #1 had 10 RNs out of 20 participating or 50%, Unit #2 had 5 RNs out of 18 or 28% participating, and Unit #3 had 2 RNs out of 10 or 20% participating. Included in this research project was a demographic profile which 16 completed, with four males and 12 females. Demographic data results are illustrated in Figures 2, 3, and 4.

Figure 2 illustrates the age range of the sample.

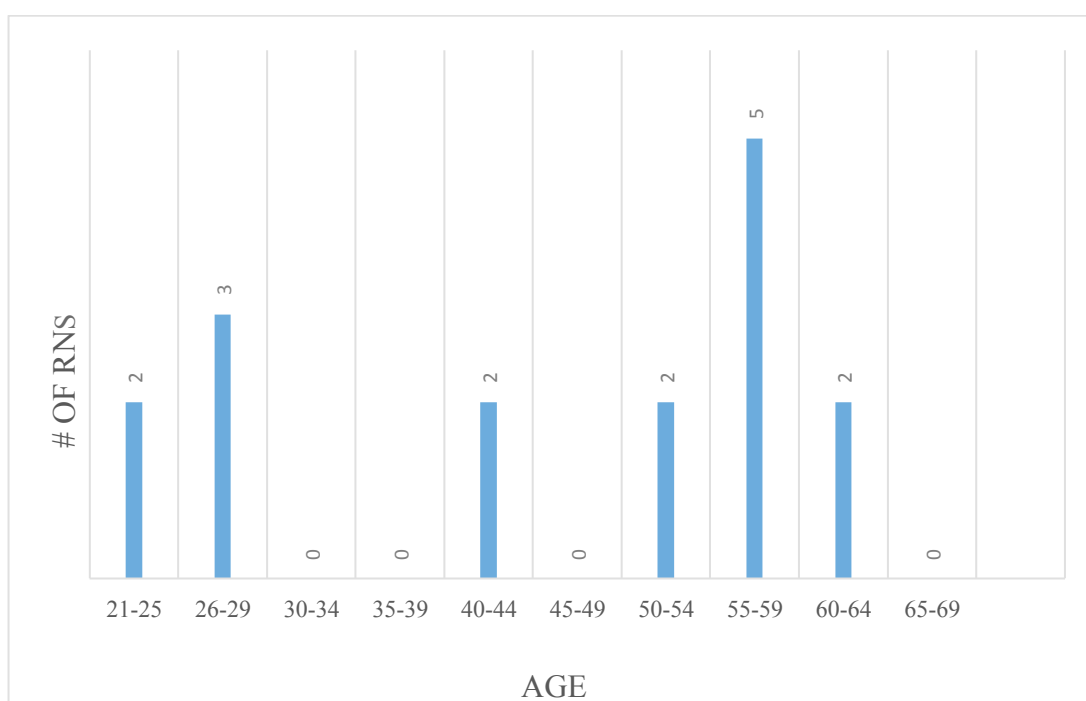


Figure 2. Age range of RNs (N=16)

Most nurses were 40 years of age or older (69%), with the greatest number of nurses between the ages of 55-59 years of age.

Educational background of the participants is illustrated in Figure 3.

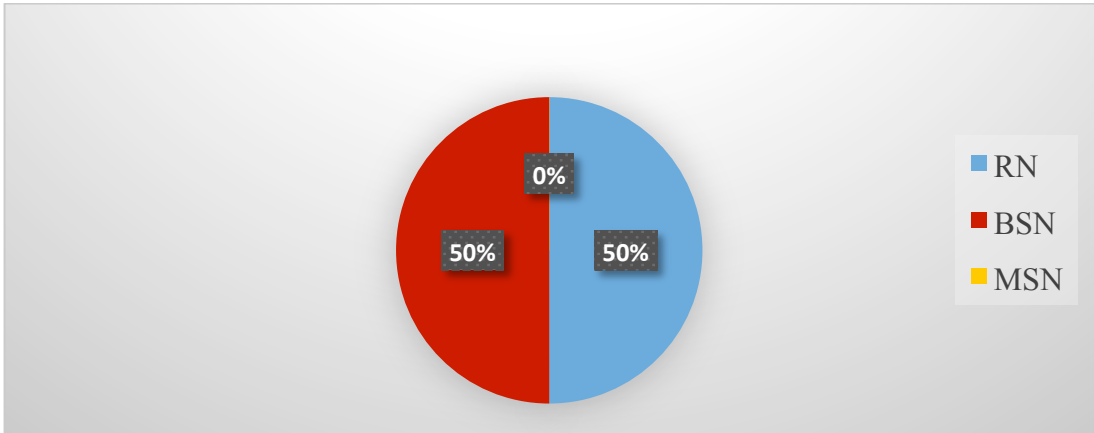


Figure 3. Educational background

Eight participants were RNs with an Associates or Diploma in Nursing and eight participants had a Bachelor of Science in Nursing (BSN). No participants held a Master's of Science in Nursing (MSN).

Next, Figure 4 illustrates the years practicing as a RN.

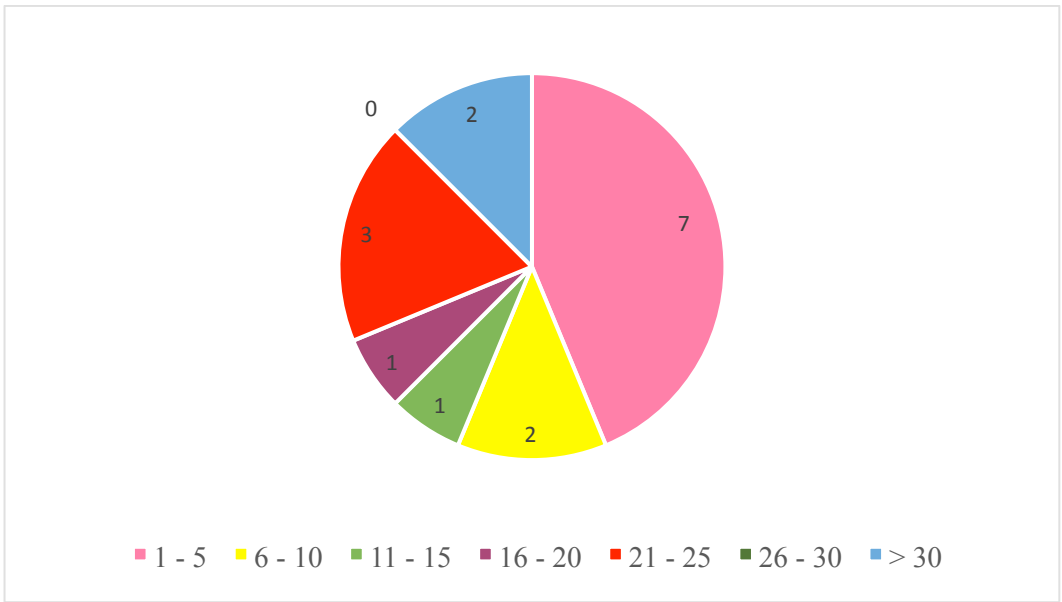


Figure 4. Years practicing as a RN

Of the sample, 56% had less than 10 years of experience practicing as a RN with most nurses having less than five years' experience (44%).

An open ended question included at the end of the demographic profile asked nurses whether they would find defining symptoms or behaviors of anxiety or agitation useful in orders prescribing PRN psychoactive medication for “anxiety” or “agitation”. A total of four RNs (25%) responded “no” and a total of 12 RNs (75%) stated “yes”. The following are representative of their responses.

- “Yes. I think it would help staff select the correct medication and would help the team determine if the right drug is being used. When there is confusion about the drugs (which one is best for which behavior), then it is hard to determine if we are getting the effect we are looking for.”
- “Yes. Very grey area.”
- “Yes. It would help pick the appropriate medication for the patient.”
- “Yes. We need a clear understanding of when PRN’s are warranted to eliminate undefined administrations and variations in practice. All PRN medication should be clearly stated.”
- “Yes. It would be useful to have clear guidelines/ uses of psychoactive medication for anxiety or agitation to avoid inappropriate use.”
- “Yes. Sometimes patients have more than 1 PRN for anxiety and agitation. It would be helpful if medications stated the symptoms so RNs would know which meds would be more effective, depending on the symptoms the patient is presenting.”

- “Yes. By defining what anxiety or agitation means to a particular patient, the hope would be that the staff may be able to recognize the signs before full escalation.”
- “No. That would be condescending. But addressing severity of symptoms i.e.: Vistaril 50mg po - moderate anxiety/agitation vs. Thorazine 100mg po – severe anxiety/agitation.”

Case studies were evaluated using the answer key developed by this researcher and a percentage of RNs with correct answers, defined as correctly identifying the signs and symptoms within each case, were calculated.

The number and percent of RNs correctly identifying anxiety symptoms in Case Study #1 are illustrated in Table 2 on the next page.

Table 2

Case Study #1: Anxiety Symptoms (N=17)

Anxiety Symptoms	Number and % of RNs Correctly Identifying Anxiety Symptoms
1. Tremulousness (Tremors)	8 (47%)
2. Diaphoresis (Perspiration)	9 (53%)
3. Elevated HR (Increased pulse)	13 (76%)
4. Stated inability to stay in one position (going between the bed and chair multiple times). (Restlessness- subjective complaint)	7 (41%)
5. Shaking his right leg (Restlessness, Fidgeting)	10 (59%)
6. Diaphoretic (Perspiration)	7 (41%)
7. HR was 98 (Increase Pulse)	4 (24%)
8. RR 27 (Increased Respirations)	7 (41%)
9. Unable to sleep due to racing thoughts (Insomnia)	11 (65%)
10. Complained of being tired (Fatigue)	3 (18%)

The mean or average percentage of RNs that correctly identified symptoms of anxiety in Case Study #1 was 46.5%, the median or middle value is 44%, and the mode or most occurring value was 41%. Data indicates that most nurses recognized a patient having an increased pulse as a symptom of anxiety but identified a patient suffering from insomnia the least.

In Table 3, on the next page, the number and percent of RNs correctly identifying behaviors of agitation in Case Study #1 are illustrated.

Table 3

Case Study #1: Agitation Behaviors (N=17)

Agitation Behaviors	Number and % of RNs Correctly Identifying Agitation Behaviors
1. Loud (Yelling)	10 (59%)
2. Antagonistic (Aggression)	10 (59%)
3. Pacing (Pacing)	14 (82%)
4. Shouting (Shouting)	16 (94%)
5. Pointing (Aggression)	14 (82%)
6. He wanted to leave AMA (Impulsiveness)	10 (59%)
7. That he wanted to go home and did not care how the ... he got there (Aggression, Impulsiveness)	7 (41%)
8. Yelling (Yelling)	12 (71%)
9. While yanking at his hospital gown to get it off. (Impulsiveness)	11 (65%)
10. Refused to let her check his arm for his INT (Resistant to Care)	11 (65%)

The mean percentage of RNs that correctly identified agitation behaviors was 67.7%, the median value was 65%, and the mode value was 59%. These results are suggestive that over 50% of RNs were able to identify nine behaviors of agitation.

In Table 4, on the next page, the number and percent of RNs correctly identifying anxiety symptoms in Case Study #2.

Table 4

Case Study #2: Anxiety Symptoms (N=17)

Anxiety Symptoms	Number and % of RNs Correctly Identifying Anxiety Symptoms
1. What about my cat and who is going to take care of my flowers and my house? (Expression of Worry)	11 (65%)
2. I do not want surgery at my age. (Nervousness)	9 (53%)
3. I'm too old and something could happen. (Expression of Fear).	7 (41%)
4. I feel like my heart is pounding (Pounding Heart).	14 (82%)
5. I can't catch my breath (Hyperventilation)	13 (76%)
6. Hands were shaking uncontrollably (Nervousness, Tremors)	14 (82%)
7. Rigidly holding on to the side rails (Muscle Tension)	7 (41%)
8. Diaphoretic (Perspiration)	16 (94%)
9. HR 94 (Increased Pulse)	11 (65%)
10. R 24 (Increased Respirations)	7 (41%)
11. "Nurse, Nurse, Nurse" (Nervousness)	8 (47%)

In Case Study #2, the mean percentage of RNs that correctly identified symptoms of anxiety was 62.5%, the median value was 65%, and the mode value was 41%. These results suggest that more than half of RNs could identify seven symptoms of anxiety with perspiration being the most common symptom.

In Table 5, on the next page, the number and percent of RNs correctly identifying behaviors of agitation in Case Study #2 are illustrated.

Table 5

Case Study #2: Agitation Behaviors (N=17)

Agitation Behaviors	Number and % of RNs Correctly Identifying Agitation Behaviors
1. Attempting to get OOB (Restlessness, Impulsiveness)	7 (41%)
2. Her speech was rapid and loud (Yelling)	12 (71%)
3. She picked up her Kleenex box and threw it across the room. (Throwing Objects)	16 (94%)
4. Yelling (Yelling)	10 (59%)
5. "Get this man out of my house." (Hallucinations)	8 (47%)
6. "He's going to hurt me." (Hallucinations)	7 (41%)
7. "Don't you see?" (Hallucinations)	4 (24%)
8. "He's already hit me." (Hallucinations)	8 (47%)
9. The IV had been pulled out (Aggression, Resistant to Care)	11 (65%)
10. Shouting at the nurse to leave her alone. (Shouting)	10 (59%)
11. Grabbing (Grabbing)	11 (65%)
12. Swinging (Aggression)	13 (76%)
13. "Don't you touch me!" (Resistant to Care)	8 (47%)
14. "You are all out to get me." (Paranoia)	7 (41%)

The mean percentage of RNs that correctly identified behaviors of agitation was 55.5%, the median value was 65%, and the mode value was 41%. Data revealed that most nurses (94%) recognized throwing an object associated with agitation however, they least recognized one category of hallucinations as a behavior associated with agitation.

There were six RNs that participated in this research with 16 or more years of experience practicing as a RN. Table 6 illustrates the number of RNs with 16 or more years of experience that scored above 50% for correctly identified answers from Case Study #1 and Case Study #2 (n=5).

Table 6

Total Percentage of Correctly Identified Answers from Nurses that Scored Above 50% with Greater Than 16 Years of Experience (n=5).

Number of RNs With 16 Years of Experience or Greater (n=5) Scoring above 50%	Total Percentage of Correctly Identified Answers
1	54%
1	55%
1	58%
1	91%
1	93%

Overall, two RNs scored greater than 90% with one RN that scored below 50% of correct responses.

There was a total of 10 RNs with less than 16 years of experience practicing as a RN. The number of RNs with less than 16 years of RN experience that scored above 50% (n=5) for total number of correctly identified answers from both case studies are illustrated in Table 7 on the next page.

Table 7

Total Percentage of Correctly Identified Answers from Nurses that Scored Above 50% with Less Than 16 Years of Experience (n=5).

Number of RNs With <16 Years of Experience (n=5) Scoring Above 50%	Total Percentage of Correctly Identified Answers From Both Case Studies
1	55%
1	57%
1	61%
2	76%

Two RNs scored greater than 70% for correctly identified answers from both case studies: however, five RNs scored below 50% for correctly identified responses.

Next, the summary and conclusion for this research project will be discussed.

Summary and Conclusions

In summary, a problem identified in nursing practice is the lack of universal descriptive guidelines for nurses to follow when administering ‘as needed’ or PRN psychoactive medication (Hilton & Whiteford, 2008). As shown in the literature review, there are few standardized guidelines for nurses to follow when patients exhibit signs and symptoms of anxiety or agitation; common symptoms related to patients suffering from a mental illness. This places a great deal of responsibility on nursing staff and assumes that all nurses are knowledgeable in identifying such behaviors. In a review of PRN practice standards conducted by Hilton and Whiteford (2008), the authors suggested that research implies that many nurses in the psychiatric field lack key knowledge and expertise when assessing patient behaviors and may administer PRN medications inappropriately.

The most common use for PRN psychoactive medications in the inpatient psychiatric setting is for the reduction of behaviors associated with anxiety, agitation, and aggression (Usher & Luck, 2004; Winship, 2010). This responsibility rests solely on the nursing staff and their ability to use autonomous clinical decision-making to distinguish between different behaviors associated with those conditions prior to the administration of PRN medication (Hilton & Whiteford, 2008; Usher et al., 2009). Approximately 75% of hospital psychiatric patients receive PRN medications and there are presently few studies that explore nurses’ rationale for the decision-making processes when administering those medications (Stein-Parbury et al., 2008; Usher et al., 2009; Winship, 2010).

The purpose of this research project was to determine nurses’ knowledge of signs and symptoms of anxiety or agitation in the acute care setting. In Case Study #1, less

than half of RNs could correctly identify symptoms of anxiety with more than half of RNs able to identify behaviors of agitation. This may indicate the need for further education with anxiety symptom recognition in the acute care environment.

In Case Study #2, 64% of participating RNs were able to identify symptoms of anxiety and 50% of RNs identified behaviors related to agitation. These results indicate that a higher percentage of RNs had better symptom recognition of anxiety than agitation in this scenario. However, a disparity in symptom recognition is evident in both case studies which may illustrate the need for more clinical education when assessing a patient demonstrating these conditions.

It is unclear why RNs identified more symptoms of anxiety in Case Study #2 as compared to Case Study #1. One possibility may be that nurses participating in this research had more experience with older patients exhibiting anxiety or developing delirium while hospitalized.

Results suggest that there is a gap in clinical knowledge to varying degrees in nurses' ability to identify symptoms of anxiety and agitation. Data from Table 6 suggests that the number of years practicing as a RN may improve symptom recognition; however, the results of this study demonstrates a discrepancy in clinical assessment. These results are consistent with the literature review in that nurses in the acute care setting may lack key knowledge when identifying patients exhibiting signs and symptoms of anxiety and agitation. Universal descriptive guidelines implemented along with prescription orders of PRN psychoactive medications may improve the accuracy of correct PRN medication administration and dosing and improve patient outcomes.

As a part of the demographic profile, nurses were asked whether they would find defining symptoms or behaviors of anxiety and agitation in orders prescribing PRN psychoactive medication for ‘anxiety’ or ‘agitation’ helpful. These responses indicate that clarification is warranted and that nurses and patients would benefit from more descriptive and defining symptoms of anxiety and agitation to guide the nurse to administrate the most appropriate PRN psychoactive medication. This also may imply that if some nurses in the psychiatric setting feel listing defining symptoms would be helpful in PRN psychoactive prescription orders, than nurses who work in various non-psychiatric settings might find it helpful as well.

A limitation of this research study was the size of the sample. Also, staff member participation from each unit was limited. In order to adequately assess nurses’ knowledge of signs and symptoms of anxiety and agitation in the acute care setting, more units would need to participate and a larger sample size obtained. A second limitation was that there was another survey sent to all nursing staff during the time this project was conducted. Nurses are often inundated with requests to voluntarily complete surveys or questionnaires and may not support the relevance of conducting evidence-based research. A third limitation was that this researcher did not make any attempt to study demographic characteristics of nurses more broadly, and the cases while an accurate representation of acute care clients, did not represent the diversity of patients seen in hospitals.

This research suggests that education regarding symptom recognition is needed. It may also demonstrate a performance gap and potential variations in clinical practice when administrating PRN psychoactive medications according to observed signs and symptoms of anxiety and agitation. If symptoms are not identified early on, lack of

treatment may occur or prescribed medications for those conditions may not be administered leading to poor patient satisfaction and outcomes.

In conclusion, this research demonstrates a knowledge deficit in practicing nurses regarding the topic of symptom recognition in patients exhibiting signs and symptoms of anxiety and agitation. Nurses practicing on three units in an acute care setting were unable to accurately identify all symptoms of anxiety and agitation.

The results of this study suggests that nurses could benefit from increased knowledge related to symptom recognition of anxiety and agitation. Being able to accurately identify signs and symptoms of anxiety and agitation is necessary to effectively manage these symptoms which would potentially result in improved patient outcomes and quality of life.

Next, recommendations and implications for advanced nursing practice will be discussed.

Recommendations and Implications for Advanced Nursing Practice

The findings from this research study suggest that there were gaps in clinical knowledge when nurses were asked to recognize symptoms of anxiety or behaviors associated with agitation that may lead to variations in practice. If nurses were skillful in identifying these conditions in the clinical setting, patients would more likely be administered the appropriate medication related to these symptoms. Furthermore, recognizing and treating a patient's anxiety may prevent behaviors of agitation from occurring.

Advanced Practice Registered Nurses (APRNs) in all health care settings have the opportunity to identify knowledge deficits in clinical practice with respect to symptom identification for both anxiety and agitation prior to the administration of PRN psychoactive medication. An educational needs assessment can effectively drive change in teaching strategies to increase nurses' knowledge in the acute care setting. In addition, the APRN can develop an educational program for nursing staff that includes a pre-test and post-test to stimulate this change. This may enable staff to provide more competent, effective, and safe patient care to improve patient outcomes.

The APRN can be instrumental in providing clarification to nursing staff by developing educational modules with patient scenarios similar to those of the two case studies. Discussing actual patient cases with nursing staff, establishing guidelines, or advocating for change in current policy and procedures on how prescribers order psychoactive medications is indicated. This initiative could showcase a quality improvement project which may enhance clinical nurse practice and promote positive patient outcomes in the acute care setting.

In addition, the APRN could lead an interdisciplinary team to develop evidence-based guidelines and treatment algorithms to provide nurses with decision support when administering PRN psychoactive medications to assist nursing staff in recognizing signs and symptoms of anxiety and agitation prior to the administration of PRN psychoactive medications. The APRN can utilize symptoms of anxiety and behaviors of agitation to create a reference tool according to those outlined in the literature review by Hildegard Peplau and the CMAI. By having clearly defined guidelines, nurses may enhance their clinical assessment skills and demonstrate less variation in symptom recognition and practice.

In the broader scope, APRNs can impact national healthcare policy and standards by using evidence-based research to evaluate the ethical practice of administering PRN psychoactive medication in the acute care setting. In 2012, the Centers for Medicare & Medicaid Services (CMS) executed the *Partnership to Improve Dementia Care in Nursing Homes*. This program focused on the reduction of psychoactive medication usage in residents at long-term facilities and the administration of PRN medications according to specific observed criteria (CMS, 2015). By benchmarking practices in other institutions on how PRN psychoactive medications are ordered and administered, the APRN can determine the strength and utility on patient outcomes in their delivery of health care and institute change in to the acute care setting. This intervention not only demonstrates continuity of clinical assessment and practice across the health care setting but optimizes best outcomes for patients, nurses, and institutions.

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Appendix A

ATTENTION: **ALL NURSES**

Please complete the questionnaires on *anxiety* and *agitation* symptoms from **January 2-31, 2015** and receive a participation reward!



NURSES MAKE A
DIFFERENCE



Appendix B

Informational Letter

Dear Nursing Staff,

Hello, my name is Cindy DiSano BSN, RN and I am currently a Master's student at Rhode Island College in the Clinical Nurse Specialist (CNS) program. I am presently working on my master's project and I am seeking your help. I did a clinical rotation at Fatima Hospital from January to May of this year; learning the CNS role from Barbara Forloney RN, MSN, CNS-BC. During the course of the semester, I observed that prescribers regularly order multiple PRN psychoactive medications for patients experiencing acute episodes of "anxiety" or "agitation". Nurses are routinely asked to differentiate between symptoms and/or behaviors of anxiety and agitation prior to the administration of PRN psychoactive medication; this places a great deal of responsibility on nurses. Presently, there are a lack of universal practice guidelines to assist nurses with this practice. By adding the clarity of having identified observed behaviors as anxiety or agitation on prescriber orders, appropriate PRN medications may more likely be administered and positive patient outcomes achieved. The purpose of this project is to identify nurse's knowledge of signs and symptoms of anxiety or agitation in the acute care setting.

You are one of three units asked to participate in this study. I am asking for all nurses to read two developed case studies. Each case study will have symptoms and/or behaviors of anxiety and agitation incorporated into each case study. I am asking participants in this study to write the word, phrase, or sentence that is either a symptom and/or behavior of anxiety or agitation and place it under the appropriate column labeled "signs of anxiety" or "agitation behaviors" after each case study. Please complete these case studies individually and without the use of outside resources. I also ask that you complete the demographic profile and answer one final question at the end of the questionnaire. Completed case studies will be placed in a sealed box labeled "completed case studies". There will be an attached index card to the case studies that nurses can detach and write their name on for a participation reward. The index cards will be placed in a separate sealed box labeled "index cards".

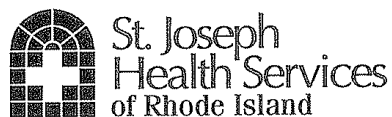
Participation in this study is voluntary and will remain anonymous. Consent is implied if you choose to participate. The study will take place from January 2- January 31, 2015 and results of the study will be disseminated after the questionnaire is analyzed. I realize that as nurses you are often asked to do many surveys or questionnaires and that your time is precious. Please consider taking a few minutes to complete these case studies. Results from this study may impact future nursing practice.

Thank you in advance for your participation. I truly appreciate your help!

Sincerely,

Cindy DiSano BSN, RN

Appendix C



200 HIGH SERVICE AVENUE
NORTH PROVIDENCE, RI 02904
(401) 456-3000

WWW.SAINTJOSEPHRI.COM

December 6, 2014

To Whom It May Concern:

As a representative of Our Lady of Fatima Hospital, I am aware of that the Human Research Review Committee at Roger Williams Medical Center has approved the study "Nurses Knowledge of Signs and Symptoms of Anxiety and Agitation" that will be conducted on site at Our Lady of Fatima Hospital in the month of January 2015. I understand that staff from two behavioral health units and one Medical-Surgical unit will participate and that Cindy DiSano, BSN, Master of Nursing, candidate is the primary researcher and Barbara Forloney, MS, RN (401-323-6237) is the principal investigator for this work. The managers and staff will be notified of the study with reassurance that participation is voluntary. Confidentiality of participants will be maintained. Any unanticipated problems will be reported to the principal investigator who will report to the HRRC in a timely manner.

Sincerely,

A handwritten signature in cursive script that reads "Patricia A. Nadle".

Patricia A. Nadle
VP Patient Services, CNO

PAN/bf

DIVISIONS:

AN AFFILIATE OF  Charter CARE
HEALTH PARTNERS

OUR LADY OF FATIMA HOSPITAL | ST. JOSEPH CENTER FOR HEALTH & HUMAN SERVICES

Appendix D

Case Study #1

Please read the following case study and write either the word, phrase, or sentence that demonstrates signs of anxiety or agitation behaviors and write it under the appropriate column after the case study.

CASE STUDY #1

J.D. is a 56-year-old male that presented to the ED two days ago with left hip pain, weakness, hypotension, afebrile with a HR-84, R-18 and a Pox 95%. Labs indicated hyponatremia, hypokalemia, anemia with an H/H of 7.0/22.5 and a BAL of 227. He received fluid and electrolyte replacement, 2 units of PRBCs, and PRN pain medication for his hip pain. His PMH consists of GERD, ulcers, cirrhosis, Hepatitis C, gastritis, ETOH abuse, Barrett's esophagus, depression, anxiety, and Schizophrenia. His past surgical history consists of a hernia repair and ORIF of left hip related to a MVA. He smokes 1½ PPD of cigarettes and admits to drinking three beers a day for the last 8 months. His admitting diagnosis was microcytic anemia, hyponatremia, hypokalemia, and ETOH intoxication.

Left hip x-ray revealed no changes and an endoscopy that was performed revealed severe esophagitis and small esophageal varices. On day one, post admission, he received one dose of psychoactive PRN medication for tremulousness, diaphoresis, elevated HR and a stated inability to stay in one position (going between the bed and chair multiple times).

On the second day of admission, J.D.'s day nurse received report that J.D. slept well during the night with no complaints of pain or discomfort, no signs of ETOH

withdrawal or requirement of PRN medication. His labs were normalizing and there is no indication of bleeding. The nurse observed during morning medication passes that J.D. was sitting up in his chair waiting for breakfast. His heart rate was slightly elevated at 90; his other vital signs were WNL. J.D. stated his pain was 0/10 and had no further complaints. His tone of voice was loud and antagonistic and he responded in short answers with minimal eye contact. The rest of the day was unremarkable.

The evening nurse noticed that J.D. was sitting up in the chair and shaking his right leg. He had <25% of his dinner, stating he was not hungry. VS remained stable and he again denied pain or discomfort. At 4 am, J.D was slightly diaphoretic; HR was 98 and RR 27. He complained of being unable to sleep due to racing thoughts even though he complained of being tired. The following day, during AM rounds, J.D. was pacing in his room, shouting and pointing at the nurse that he wanted to leave AMA. He stated that he wanted to go home and did not care how the ... he got there. He continued yelling at the nurse while yanking at his hospital gown to get it off. She asked permission to get a set of vital signs and to check to see if he still had an INT. He refused to let her check his arm for his INT, stating that it was already out and his VS were “fine”. When the team reviewed J.D.’s medications, it was noted that he was not on his usual medication for Schizophrenia nor was he offered a nicotine patch for smoking cessation.

Signs of Anxiety

Agitation Behaviors

Appendix E

Case Study #2

Please read the following case study and write either the word, phrase, or sentence that demonstrates signs of anxiety or agitation behaviors and write it under the appropriate column after the case study.

CASE STUDY #2

A.G. is an 83-year-old female that presented to the ED for complaint of right hip pain, having been found by her daughter after sustaining an unwitnessed fall at home. A.G. is awake, alert, and oriented to person and place but disoriented to time. This is a change from her baseline, although per her daughter, A.G. had become more forgetful over the last 6 months. She denies hitting her head and there are no signs of head trauma. Hip x-ray revealed a right hip fracture and she is scheduled for an ORIF of the right hip in the morning. She rated her pain a 6/10 and was medicated for pain according to ED policy. Her PMH consists of HTN, hyperlipidemia, CAD with stent placement, glaucoma, and generalized anxiety disorder. Her surgical history consists of stent x1, cholecystectomy, cesarean section x2, and a total hysterectomy. She lives in her home alone, and is independent with her ADL's although her daughter does her shopping.

While waiting to be transferred, A.G. iterates to her daughter multiple times, "What about my cat and who is going to take care of my flowers and my house? I do not want surgery at my age. I'm too old and something could happen. I feel like my heart is pounding and I can't catch my breath." A.G. was tearful and her hands were shaking uncontrollably while rigidly holding on to the side rails; she was becoming diaphoretic. BP was 162/98, HR 94, and R 24; an increase from the previous set of vital signs. Her

Pox was 95% on room air. She called out “Nurse, Nurse, Nurse”, repetitively during her daughter’s absence, verbalizing random multiple requests.

Surgery was successfully performed and patient was back from recovery. Upon rounds, her evening nurse noticed that the patient was very sleepy, but arousable. She was medicated x1 for pain; vital signs were stable. During the night shift, the RN noticed A.G. attempting to get OOB while looking around the room frantically. Her speech was rapid and loud. She picked up her Kleenex box and threw it across the room, yelling to the nurse, “Get this man out of my house. He’s going to hurt me. Don’t you see? He’s already hit me.” The IV had been pulled out and the patient was bleeding. When her nurse attempted to reorient A.G., she began shouting at the nurse to leave her alone; grabbing and swinging, saying “Don’t touch me! You are all out to get me.”

Signs of Anxiety

Agitation Behaviors

Appendix F

Demographic Profile

Please circle the appropriate response

Gender:

Male Female

Age Range:

21-25 26-29 30-34 35-39 40-44 45-49 50-54 55-59 60-64 65-69 >69

Educational Background:

RN (Associate or Diploma) BSN MSN

Years Practicing as a RN:

1-5 6-10 11-15 16-20 21-25 26-30 >30 years

Final Question:

Please circle your answer.

Would you find it useful to have defining symptoms or behaviors of anxiety or agitation in orders prescribing PRN psychoactive medication for “anxiety” or “agitation”?

NO YES

If yes, why?

Appendix G

Please read the following case study and write either the word, phrase, or sentence that demonstrates signs of anxiety or agitation behaviors and write it under the appropriate column after the case study.

CASE STUDY #1

J.D. is a 56-year-old male that presented to the ED two days ago with left hip pain, weakness, hypotension, afebrile with a HR-84, R-18 and a Pox 95%. Labs indicated hyponatremia, hypokalemia, anemia with an H/H of 7.0/22.5 and a BAL of 227. He received fluid and electrolyte replacement, 2 units of PRBCs, and PRN pain medication for his hip pain. His PMH consists of GERD, ulcers, cirrhosis, Hepatitis C, gastritis, ETOH abuse, Barrett's esophagus, depression, anxiety, and Schizophrenia. His past surgical history consists of a hernia repair and ORIF of left hip related to a MVA. He smokes 1½ PPD of cigarettes and admits to drinking three beers a day for the last 8 months. His admitting diagnosis was microcytic anemia, hyponatremia, hypokalemia, and ETOH intoxication.

Left hip x-ray revealed no changes and an endoscopy that was performed revealed severe esophagitis and small esophageal varices. On day one, post admission, he received one dose of psychoactive PRN medication for tremulousness, diaphoresis, elevated HR and a stated inability to stay in one position (going between the bed and chair multiple times).

On the second day of admission, J.D.'s day nurse received report that J.D. slept well during the night with no complaints of pain or discomfort, no signs of ETOH withdrawal or requirement of PRN medication. His labs were normalizing and there is no indication of bleeding. The nurse observed during morning medication passes that

J.D. was sitting up in his chair waiting for breakfast. His heart rate was slightly elevated at 90; his other vital signs were WNL. J.D. stated his pain was 0/10 and had no further complaints. His tone of voice was **loud** and **antagonistic** and he responded in short answers with minimal eye contact. The rest of the day was unremarkable.

The evening nurse noticed that J.D. was sitting up in the chair and **shaking his right leg**. He had <25% of his dinner, stating he was not hungry. VS remained stable and he again denied pain or discomfort. At 4 am, J.D was slightly **diaphoretic**; **HR was 98** and **RR 27**. He complained of being **unable to sleep due to racing thoughts** even though he **complained of being tired**. The following day, during AM rounds, J.D. was **pac**ing in his room, **shouting** and **pointing** at the nurse that **he wanted to leave AMA**. He stated **that he wanted to go home and did not care how the ... he got there**. He continued **yelling** at the nurse **while yanking at his hospital gown to get it off**. She asked permission to get a set of vital signs and to check to see if he still had an INT. He **refused to let her check his arm for his INT**, stating that it was already out and his VS were “fine”. When the team reviewed J.D.’s medications, it was noted that he was not on his usual medication for Schizophrenia nor was he offered a nicotine patch for smoking cessation.

Signs of Anxiety

Agitation Behaviors

1. Tremulousness (Tremors)	1. Loud (Yelling)
2. Diaphoresis (Perspiration)	2. Antagonistic (Aggression)
3. Elevated HR (Increased pulse)	3. Pacing (Pacing)
4. Stated inability to stay in one position (going between the bed and chair multiple times). (Restlessness- subjective complaint)	4. Shouting (Shouting)
5. Shaking his right leg (Restlessness, Fidgeting)	5. Pointing (Aggression)
6. Diaphoretic (Perspiration)	6. He wanted to leave AMA (Impulsiveness)
7. HR was 98 (Increase Pulse)	7. That he wanted to go home and did not care how the ... he got there (Aggression, Impulsiveness)
8. RR 27 (Increased Respirations)	8. Yelling (Yelling)
9. Unable to sleep due to racing thoughts (Insomnia)	9. While yanking at his hospital gown to get it off. (Impulsiveness)
10. Complained of being tired (Fatigue)	10. Refused to let her check his arm for his INT (Resistant to Care)

Appendix H

Please read the following case study and write either the word, phrase, or sentence that demonstrates signs of anxiety or agitation behaviors and write it under the appropriate column after the case study.

CASE STUDY #2

A.G. is an 83-year-old female that presented to the ED for complaint of right hip pain, having been found by her daughter after sustaining an unwitnessed fall at home. A.G. is awake, alert, and oriented to person and place but disoriented to time. This is a change from her baseline, although per her daughter, A.G. had become more forgetful over the last 6 months. She denies hitting her head and there are no signs of head trauma. Hip x-ray revealed a right hip fracture and she is scheduled for an ORIF of the right hip in the morning. She rated her pain a 6/10 and was medicated for pain according to ED policy. Her PMH consists of HTN, hyperlipidemia, CAD with stent placement, glaucoma, and generalized anxiety disorder. Her surgical history consists of stent x1, cholecystectomy, cesarean section x2, and a total hysterectomy. She lives in her home alone, and is independent with her ADL's although her daughter does her shopping.

While waiting to be transferred, A.G. iterates to her daughter multiple times, "What about my cat and who is going to take care of my flowers and my house? I do not want surgery at my age. I'm too old and something could happen. I feel like my heart is pounding and I can't catch my breath." A.G. was tearful and her hands were shaking uncontrollably while rigidly holding on to the side rails; she was becoming diaphoretic. BP was 162/98, HR 94, and R 24; an increase from the previous set of vital signs. Her

Pox was 95% on room air. She called out “Nurse, Nurse, Nurse”, repetitively during her daughter’s absence, verbalizing random multiple requests.

Surgery was successfully performed and patient was back from recovery. Upon rounds, her evening nurse noticed that the patient was very sleepy, but arousable. She was medicated x1 for pain; vital signs were stable. During the night shift, the RN noticed A.G. attempting to get OOB while looking around the room frantically. Her speech was rapid and loud. She picked up her Kleenex box and threw it across the room, yelling to the nurse, “Get this man out of my house. He’s going to hurt me. Don’t you see? He’s already hit me.” The IV had been pulled out and the patient was bleeding. When her nurse attempted to reorient A.G., she began shouting at the nurse to leave her alone; grabbing and swinging, saying “Don’t touch me! You are all out to get me.”

Signs of Anxiety

Agitation Behaviors

1. What about my cat and who is going to take care of my flowers and my house? (Expression of Worry)	1. Attempting to get OOB (Restlessness, Impulsiveness)
2. I do not want surgery at my age. (Nervousness)	2. Her speech was rapid and loud (Yelling)
3. I’m too old and something could happen. (Expression of Fear).	3. She picked up her Kleenex box and threw it across the room (Throwing Objects)
4. I feel like my heart is pounding (Pounding Heart).	4. Yelling (Yelling)
5. I can’t catch my breath (Hyperventilation)	5. Get this man out of my house. (Hallucinations)
6. Hands were shaking uncontrollably (Nervousness, Tremors)	6. He’s going to hurt me. (Hallucinations)
7. Rigidly holding on to the side rails (Muscle Tension)	7. “Don’t you see?” (Hallucinations)
8. Diaphoretic (Perspiration)	8. “He’s already hit me.” (Hallucinations)
9. HR 94 (Increased Pulse)	9. The IV had been pulled out (Aggression, Resistant to Care)
10. R 24 (Increased Respirations)	10. Shouting at the nurse to leave her alone (Shouting)
11. “Nurse, Nurse, Nurse” (Nervousness)	11. Grabbing (Grabbing)
	12. Swinging (Aggression)
	13. “Don’t you touch me!” (Resistant to Care)
	14. “You are all out to get me.” (Paranoia)