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entitled

Meanings to Rehabilitation Nurses When Institutionalized Older Persons Fall or a Fall Is Prevented

by

Amy J. Bok

Submitted to the Graduate Faculty as partial fulfillment of the requirements for the Master of Science Degree in Nursing

Dr. Linda Pierce, Committee Chair

Dr. Victoria Steiner, Committee Member

Dr. Cheryl Gies, Committee Member

Dr. Patricia R. Komuniecki, Dean
College of Graduate Studies

The University of Toledo

August, 2013
An Abstract of
Meanings to Rehabilitation Nurses When Institutionalized Older Persons Fall or a Fall is Prevented

by

Amy J. Bok

Submitted to the Graduate Faculty as partial fulfillment of the requirements for the Master of Science Degree in Nursing

The University of Toledo
August 2013

This study explored the meaning of falls or prevention of falls for rehabilitation registered nurses and whether the experience of these events changed the nurse’s practice. Nurses caring for patients who fall may experience guilt, stress, and self-doubt that may have a negative impact on the nurse’s practice. Friedemann’s Framework of Systemic Organization guided this study suggesting that nurses use multiple strategies to reach four targets in dealing with falls: stability, growth, control and spirituality. If these targets are balanced satisfactorily, the nurses’ anxiety or other disturbing emotions (incongruence) are reduced and well-being, health (congruence) is promoted. Following IRB approval, a descriptive study of a convenience sample of 742 rehabilitation nurses living in Florida, West Virginia, Maine, and Pennsylvania were mailed a cover letter which included a web address for completing the Survey. The Survey, which had been reviewed for content validity, contained seven open-ended questions asking nurses to describe a fall or fall prevention and the meaning, as well as the impact of these two experiences on their practice, plus any additional comments. Data analysis included descriptive statistics for demographic data and rigorous content data analysis for open-ended Survey questions. Forty two nurses completed demographic questions in the
Survey. Thirty subjects answered both demographic and open-ended questions. These subjects provided brief descriptions of falls and fall prevention. Themes discovered related to the meaning of a fall include negative feelings (incongruence), such as feeling horrible, guilty, failure; and positive feelings (congruence), such as being thankful for lack of injury or having no personal responsibility for the fall. Meanings related to preventing a fall included positive feelings (congruence) of feeling like a super hero, did well, lucky and relieved. Practice change themes related to falls included seeking more education, increasing interventions for safety, and seeking interdisciplinary support.

Practice change themes with fall prevention included utilizing fall assistance programs, seeking adequate staff for transfers, and being aware of fall risks. Meanings shared by rehabilitation nurses can be used to develop fall prevention programs, education for interdisciplinary teams and administrators, and encourage practice change.
Acknowledgements

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Chapter 1

Falls are the most frequently reported adverse event for patients in institutionalized environments (Currie, 2008). The National Patient Safety Foundation (NPSF) (2012) estimates that 500,000 people fall each year in United States hospitals, with 150,000 of the falls resulting in injuries. Four to six percent of falls result in serious injury including fractures, subdural hematomas, excessive bleeding, or death (NPSF, 2012). According to the NPSF (2012), the estimated cost to the hospital for a single patient fall in 2007 was $11,042, with the price of inflation in 2013 this cost is $12,563.20 for a patient fall (H. Brothers, Inc., 2013).

Current evidence-based strategies for reducing falls and fall injuries include interdisciplinary approaches such as completing a risk assessment, encouraging safe ambulation, providing a safe environment, performing frequent monitoring, and careful prescribing of medications (U.S. Department of Health and Human Services [USDHHS], 2012). Rehabilitation nurses are key members of the interdisciplinary team charged with preventing falls as they are involved in each of the previously mentioned strategies. According to Rush et al. (2008), falls may undermine the quality of the relationship between nurse and patient, violate the legal and ethical responsibility to do no harm, and are contrary to a culture of institutional safety. Through exploration of the rehabilitation nurse’s experience of when an institutionalized older person falls or a fall is prevented, more may be learned about the impact these experiences have on the nurse, including possible practice change.
The problem statement; the purpose of the study; the theoretical nursing framework chosen to guide this study; and research questions are presented in this chapter. The significance of describing the nurse’s experience when a patient falls or a fall is prevented and reflection on that experience as a potential process to change nursing practice are also discussed. In addition, assumptions and limitations related to the theoretical nursing framework guiding this study are described. This chapter concludes with a summary.

Statement of Problem

In a classic definition, falls are untoward events which result in the person coming to rest unintentionally on the ground or other lower surface (Morris & Isaacs, 1980). Falls occur in all types of healthcare facilities and to all patient populations. For over 30 years the literature notes that the incidence of falls and the resulting death or damage is statistically higher in an older population (Center for Disease Control and Prevention [CDC], 2012; Lord, Sherringon, & Menz, 2001; Sehested & Severin-Nielson, 1977).

Hospitalized patient falls consistently make up the largest single category of reported incidents, prolonging hospitalizations (Premier, 2012). For example in a 250-bed hospital setting, a usual fall rate would be considered about one fall per day (Simmons, 2010). The average hospital stay for patients who fall is 12.3 days longer, and injuries from falls lead to a 61% increase in patient-care costs estimated at $1.08 billion (Jorgensen, 2011). In an effort to decrease reasonably preventable complications, legislation was enacted in 2006 to prevent hospitals from billing the Centers for Medicare and Medicaid Services (CMS) for ‘never events’ which included harm from falls.
(Milstein, 2009). The financial burden of falls rests solely on the healthcare institution. Fall statistics are among quality indicators which are publically reported (Milstein, 2009). Savvy healthcare consumers can utilize these quality indicators to make choices about who will provide healthcare services.

Older people admitted or transferred to an institution for rehabilitation expect that they will improve and progress to the highest possible level of function. People do not expect to fall or anticipate physical injury and/or mental stress. Yet, some older persons do fall and suffer injury that can further complicate their recovery process. Research about falls during the rehabilitation phase of care is not as extensive as research about falls in the acute hospital and in the community. Kwan, Kaplan, Hudson-McKinney, Redman-Bentley and Rosario (2012) state that those in an inpatient rehabilitation setting are at equal or greater risk of falling compared with the acute hospital setting. A study by Aberg, Lundin-Olsson and Rosenthal (2009), cited by Kwan et al. (2012), stated that in the inpatient rehabilitation setting 10%-50% of patients will fall at least once during their stay with 9%-33% of falls resulting in injury.

The rehabilitation phase of the older person’s care is intended to be a time when the older person gains strength, function, knowledge and skill, with an overall goal of being as independent as possible. The rehabilitation phase is challenging for the staff and sometimes confusing for the patient. Described by Turkoski et al. (1997) as a dichotomy; the staff in the rehabilitation setting encourage patients to be independent and constantly caution them to refrain from anything that may result in a fall. Rehabilitation nurses realize how detrimental a fall can be for the patient and also realize that patients may take some risks as they seek independence.
One benefit of the study by Turkoski et al. (1997) was uncovering subtleties, clues from rehabilitation patients, and strategies that rehabilitation nurses use to determine fall risk. Recent research also identified characteristics of the rehabilitation patient population that indicate a greater risk for falls (Ferrari, Harrison & Lewis, 2012; Forrest et al., 2012; Kwan et al., 2012). Most research studied falls in the acute hospital however not all of this can translate to the rehabilitation setting. These authors suggest that a more rehabilitation-specific fall risk assessment is needed to assist in fall prevention for this population.

The experience of a patient fall is also difficult for rehabilitation nurses caring for that patient. A patient fall can interrupt the nurse’s sense of well-being or congruence causing him or her to feel negative emotions of stress, anxiety or fear. In a small study in one Ohio rehabilitation setting with 14 rehabilitation nurses, Turkoski and associates (1997) found that these nurses felt a strong sense of guilt or anger for not having anticipated what their patients needed, for not recognizing clues, or for not effectively communicating with them [patients] in regard to falling. “These nurses attributed the responsibility for patient falls to nursing behaviors” (p. 129); where anticipatory and proactive nursing behaviors are a result of a combination of knowledge, experience, and other factors, not yet identified (Turkoski, et al., 1997).

Through the rehabilitation nurses’ own accounts, the current study will describe the meaning of success (fall prevention) or failure (fall) to the nurses and how the experience may influence change in their practice. Nurses who believe that they have prevented a fall may consciously incorporate fall prevention strategies into their practice and share their strategies with colleagues (Turkoski et al., 1997). However, no studies
could be located that describe the nurses experience when a fall is prevented. Nurses who care for a person who falls may reflect on that experience and utilize information learned from that experience to prevent future patient falls. Stenberg and Wann-Hansson (2011) found that healthcare professionals’ attitudes and compliance with fall guidelines were dependent on fall events with negative consequences and fear of legal action. Long-term compliance was related to the healthcare professional seeing falls as a problem in their facility (Stenberg & Wann-Hansson, 2011)

**Statement of Purpose**

The purpose of this descriptive study that expands on Turkoski and associates’ work (1997) is to further explore rehabilitation registered nurses’ meanings associated with a fall of an institutionalized older adult, the meanings nurses associated with preventing a fall, as well as the nurses’ changes in practice based on these experiences.

**Nursing Conceptual Model/Theoretical Framework**

Friedemann’s framework of systemic organization (1995, 2013) guides this study. This framework suggests that systems, rehabilitation patients and nurses, use strategies to reach four targets of stability, growth, control, and spirituality. Balanced targets will reduce anxiety, tension and other disturbing emotions or incongruence, and promote well-being or health, thereby increasing congruence. Stability is perhaps the most valued goal since it signifies system survival, but growth is also needed to continuously adjust to changes occurring in the environment, such as a patient fall. With a diminished sense of control, patients who fall become dependent and can experience grief and helplessness; the nurse also may experience emotional upheaval and attempt to reorganize to regain
control. Control is defined as the attempt to eliminate or modify threats or stressors in order to regain the previous state of stability, such as before the patient fall. Coping with a fall succeeds if such acceptance is the result of a spiritual process that leads to the discovery of meaning and new purpose and consequently to new priorities and behavior patterns (Friedemann, 1995, 2013).

**Research Questions**

There are four research questions: 1) what does it mean to rehabilitation registered nurses when an institutionalized older person falls? 2) what does it mean to these nurses when they prevent a fall? 3) did the experience of a person falling change these nurses’ practice? and 4) did the experience of preventing a fall change these nurses’ practice?

**Definition of Terms**

**Institutionalized older person.**

*Conceptual definition.* The person includes the individual and their family in all clinical settings where the nurse supports the person’s processes leading to health and the person’s goal is health (Friedemann, 1995). Friedemann (1995) defines physical disease as a malfunction of one or more human organic systems. The person experiencing physical disease retains dignity and autonomy regardless of the degree of physical impairment (Friedemann, 1995). Health is subjectively evaluated by the person and is determined by system congruence (Friedemann, 1995).
**Orientational definition.** For the purposes of the study, institutionalized older person is defined as a person who is at least 65 years of age and is or has been placed in one of these clinical settings: an acute inpatient rehabilitation hospital or a free standing rehabilitation hospital, a nursing home, or assisted living facility in the last year. These institutionalized older persons receive care in one of four states (Florida, West Virginia, Maine, or Pennsylvania), as these states have the highest proportion of older adults.

**Fall.**

**Conceptual definition.** A fall is an unplanned event which may result in physical injury and/or anxiety for the institutionalized older person, increasing the struggle toward health (Friedemann, 1995). Current healthcare systems and society discourage autonomy of the institutionalized older person and the person’s ownership of health problems; therefore, nurses may feel wholly responsible when an institutionalized older person falls (Friedemann, 1995). Nurses may view a fall as a loss of control, crisis or failure; creating anxiety (incongruence) (Friedemann, 1995).

**Orientational definition.** For this study, a fall is an untoward event which results in the older institutionalized person coming to rest unintentionally on the ground or other lower surface (Morris & Isaacs, 1980). Rehabilitation registered nurses living in Florida, West Virginia, Maine, or Pennsylvania will be queried in an open-ended, electronic Survey (see Appendix A). Meanings (what they thought or felt) associated with a fall, or a prevented fall, of an institutionalized older person and if that experience changed their nursing practice will be gathered.
Prevention of a fall.

*Conceptual definition.* The support of the person and family’s systemic processes by the nurse leads to health (Friedemann, 1995). According to Friedemann (1995), nursing is to be a mutual process; not one where the nurse imposes interventions on a passive person leading to dependence. An exemplar is that the older person is assessed as being at risk for fall and a plan is devised with the older person to ensure safety. Interventions are incorporated into the care of the older person, who then does not experience a fall.

*Orientational definition.* For this study, rehabilitation registered nurses will be asked in a Survey (see Appendix A) what it means to them (what they thought or felt) when they prevent an institutionalized older person from falling and did those experiences change their nursing practice.

Change in practice.

*Conceptual definition.* Nursing is described as “a process of mutual growth through spirituality” (Friedemann, 1995, p. 34). Friedemann (1995) describes the employment of both the science and art while caring for the person. Through the art of nursing, the nurse unites with the person through interactions, ultimately revealing health in the presence of illness and systemic health for the nurse (Friedemann, 1995). Related to institutionalized older persons that fall, usual methods and strategies of nursing care may be altered by rehabilitation registered nurses to deal with falls or prevent falls based on their knowledge/experience or individual person needs. For example, the nurse knows that the elderly female patient feels safe when she is holding her rosary. The nurse makes
sure that the rosary is always in reach when she leaves the woman because the woman may fall trying to reach for it. Another example is a nurse employing science to initiate a toileting schedule for a person with urinary incontinence and unsteady gait based on research indicating that more falls occur when persons attempt to toilet unassisted.

**Orientational definition.** Specific to this study, rehabilitation registered nurses will be questioned through a Survey (see Appendix A) about the experience of a person falling or preventing a fall and if that experience changed their practice (the way they perform their nursing responsibilities).

**Significance**

Rehabilitation is a process, “a philosophy of practice and an attitude toward caring” (Jacelon, 2011, p. 3), that transverses the continuum of care. “Rehabilitation nurses provide comfort and therapy, promote health-conducive adjustments, support adaptive capabilities, and promote achievable independence” (Rehabilitation Nursing Foundation [RNF], 2012, p.3). The practice of rehabilitation nursing takes place in a variety of settings with institutionalized older persons (RNF Grant Program, 2012) in acute care inpatient rehabilitation units and free standing rehabilitation hospitals, in nursing homes, as well as assisted living environments.

Of great significance to rehabilitation nursing, as cited by Reed (2011), the physical and emotional consequences of patient falls may result in morbidity, mortality, fractures, diminished quality of life, emotional fear of repeated falling, and self-imposed restrictions on independence and mobility. Currently, there is much focus on reducing harm associated with falls. Quigley, Campbell, Olney, Buerhaus, and Needleman (2012)
compared falls and the harm associated with falls between Veteran’s Administration (VA) run nursing homes and civilian nursing homes. Based on the cost of injury, the researchers suggest the need for clinical diagnosis and a risk assessment for fall related injury rather than attempting to predict fall risk (Quigley et al., 2012). Social costs such as loss of mobility, inability to perform activities of daily living (ADLs), and pain and suffering were not measured due to lack of data (Quigley et al., 2012). None the less, Watkins and Robson (1981) point out that, although difficult to measure, there is damage to patients and family confidence and morale when a person falls with no physical injury.

Falls also affect the quality of life of nurses. Clancy (2012), in her commentary for the Agency for Healthcare Research and Quality, writes about the potential lasting damage to the clinician associated with a variety of adverse events that harm patients. She discusses the work of patient safety expert Albert Wu, M.D., M.P.H., (2000) who says that physicians, nurses and other clinicians are the second victims as they experience anxiety, depression, and shame, and are wounded after being associated with these events (Clancy, 2012).

Scott et al. (2009) completed a study of 31 clinicians who had been involved in an event resulting in patient harm. Their research identified six stages of clinician recovery: chaos and accident response, intrusive reflections, restoring personal integrity, enduring the inquisition, obtaining emotional first aid and moving on. Moving on includes the following three different outcomes: dropping out, surviving, and thriving (Scott, 2011).

Research into the consequences of patient falls will in the end promote health, improving the quality of life for all of those involved. The National Institute of Nursing Research (NINR) is committed to discover new ways for health promotion and achieve
positive outcomes, as well as manage symptoms that will improve the quality of life (NINR, 2011). One of the overreaching goals of Healthy People 2020 is to attain healthy lives free of preventable injury and disability (Healthy People 2020, 2010).

This research study centers on rehabilitation registered nurses’ experiences when an institutionalized older person falls, or a fall is prevented and supports the NINR (2011) and Healthy People 2020 (2010) initiatives. This study helps to move forward the 2005 Association of Rehabilitation Nurses / Rehabilitation Nursing Foundation Research Agenda, as it is anticipated that the findings will: 1) reveal the registered rehabilitation nurses’ meaning when an institutionalized older person falls or a fall is prevented and 2) determine if the nurse’s experiences resulted in nursing practice change. These practice changes may uncover interventions to promote safety and programs for individual education to enhance independence and wellness, and positively affect nurses and nursing practice (RNF, 2005).

Rehabilitation nurses do not have to search far to find evidence based information about falls. Current falls research includes topics such as products to prevent falls, proposed fall risk assessments, implementing fall prevention programs, and other strategies to prevent falls. Nurses’ responses about practice change in this study may identify strategies to connect research to practice and convey the information to the bedside nurse. Finally, through this inquiry more may be learned about how the rehabilitation nurse, who learns new information, incorporates it into the care of the institutionalized older person.
Assumptions

There are several assumptions related to this study on rehabilitation nurses’ experiences when an institutionalized older person falls, or a fall is prevented, and if those experiences changed their nursing practice, related to Friedemann’s (1995, 2013) framework of systemic organization that guides this study.

1. Rehabilitation registered nurses are unable to keep institutionalized older adults in their care free from harm at all times due to external forces that they cannot fully control (Friedemann, 1995).

2. Adverse events related to falls can be a threat to systemic balance that creates disturbance in health and congruence (Friedemann, 1995, 2013).

3. Rehabilitation registered nurses experience incongruence, like negative emotions of stress, anxiety or fear, when the older institutionalized adults that they care for suffer preventable adverse events such as falls or even when a fall is prevented (Friedemann, 1995, 2013).

4. Rehabilitation nurses have the ability and desire to support older persons and their families to restore congruence not only for the older person, but also for themselves (Friedemann, 1995, 2013).

5. Incongruence can lead to health if it guides the person (institutionalized older adult or rehabilitation registered nurse) to congruence (Friedemann, 1995).
Limitations

There are some limitations using Friedemann’s (1995, 2013) framework of systemic organization as a guide for this study.

1. A fall may not be viewed by an institutionalized older adult or rehabilitation registered nurse as an adverse event that causes incongruence (Friedemann, 1995, 2013); but rather as a fact of aging (Mauk, 2008).
2. If the institutionalized older adult did not suffer an injury, the fall may be considered insignificant. In this case the nurse and older adult may not experience incongruence (Friedemann, 1995).
3. Friedemann’s framework (1995, 2013) offers only one view of interpreting the rehabilitation nurse’s experience when a fall occurs or is prevented. Individual nurses may experience events in different ways and utilize different methods to cope with the events, or may choose not to cope.
4. Friedemann’s framework (1995, 2013) also offers only one way to see the world and as such, the view may be narrow.

Summary

Falls are a common adverse event in healthcare and the impact is felt by all persons involved (Currie, 2008). Persons admitted to inpatient rehabilitation or other institutionalized settings are at equal or greater risk of falling as compared to acute care hospitalizations (Kwan et al., 2012). Institutionalized older adults can suffer a variety of consequences after a fall, ranging from no apparent injury to fatalities (NPSF, 2012; Reed, 2011). Nurses, including rehabilitation registered nurses, have reported negative
affects after an institutionalized older person falls (Rush et al., 2008; Turkoski et al., 1997). Rehabilitation facilities face financial consequences when falls occur (Milstein, 2009). Multidisciplinary research has been instrumental in the discovery of individual strategies, multi-faceted processes, and equipment intended to prevent falls (USDHHS, 2012). However, strategies, processes, and equipment are only effective when used appropriately.

In this chapter, the domain of inquiry was identified. Through this current study, rehabilitation registered nurses described their experiences of institutionalized older adults who fall or instances when falls are prevented (failures/successes) and changes made to their individual nursing practice based on what was learned from these experiences. This research was developed and executed within Friedemann’s (1995, 2013) framework of systemic organization. Conceptual and orientational definitions for the key concepts in the three research questions were linked to this framework. The significance of the study was outlined and a summary concluded the chapter. In Chapter 2, Friedemann’s framework is expounded upon and a conceptual map links the concepts from the research questions to this framework. Literature is also examined related to this inquiry.
Chapter 2

Literature

Friedemann’s (1995, 2013) framework of systematic organization as the theoretical framework for this study is described in this chapter. Literature, including pertinent research studies regarding preventing falls, nurses’ perspectives of patient falls, and practice change related to patient falls are also presented.

Nursing Conceptual/Theoretical Framework

Friedemann’s (1995, 2013) framework of systematic organization acts as a guide for this study. This framework includes the major concepts of environment, person, health, family, and family health. Friedemann (1995) describes environment as everything (human and nature) outside of the system in the focus of nursing. Friedemann’s (1995) propositions about the concept of ‘person’ include that human perception is limited by the human body, humans realize their dependence on natural forces and foresee death, threats to their system existence can disturb the system and result in incongruence (anxiety), humans attempt to decrease their vulnerability and achieve control by creating artificial systems, and humans have the ability to reestablish congruence. Health, which is never totally present or absent, may occur in the absence and presence of physical disease and is the congruence between the individual’s system, subsystems, and the universal order (Friedemann, 1995). Friedemann (1995, 2013) describes anxiety as the crucial determinant in health because it signifies system incongruence. Family is a unit with structure and organization that interacts with its environment and includes interpersonal subsystems which have distinct relationships,
emotional bonds (sense of belonging), and responsibilities (Friedemann, 1995). The family includes whomever the person says is family and is not limited to those who are biologically related (Friedemann, 1995). Family health is achieving and maintaining congruence in the family in response to changing situations (Friedemann, 1995).

An important understanding from this framework is that a basic order exists in the universe which rules and connects all things in a congruent pattern and rhythm (Friedemann, 1995). Friedemann (1995) defines congruence as the state of systems being attuned to each other to allow energy to flow freely within and between systems. In the event that the flow of energy is blocked or a system does not match one’s own values and beliefs; the person experiences incongruence (Friedemann, 1995).

**The system targets.** Four targets: control, stability, growth, and spirituality, interact in a fluid manner to establish an acceptable balance or congruence within the system (Friedemann, 1995, 2013).

**Control.** Control serves to reduce anxiety that is experienced in the presence of vulnerability and helplessness (Friedemann, 1995). The nurse caring for a person who has been deemed at risk for falls, attempts to make changes to the environment or care routine to reduce the likelihood that the person will fall. Rush et al. (2008) reported a major theme of “knowing the patient was safe” or free from harm; this was accomplished through risk assessment, direct and indirect communication, and monitoring. Nurses felt a sense of betrayal when the person fell, despite these interventions (Rush et al, 2008).

**Stability.** Stability is described by Friedemann (1995) as the core of a person, encompassing character, personality, and attitudes. Stability also includes the ability to
challenge one’s own attitudes and opinions if the changes align with the underlying basic values (Friedemann, 1995). For example, a basic underlying value for nurses is to prevent harm to the patient. A nurse may have a practice routine that he or she utilizes when caring for a person at risk for falls. When new strategies are suggested, the nurse is able to consider adjusting his or her current practice because his/her basic value of keeping the person safe is preserved.

**Growth.** Growth requires substantial reorganization of basic values and priorities and can occur slowly over time or more quickly in times of crisis (Friedemann, 1995). According to Friedemann (1995), the person re-examines beliefs and attitudes and develops new behaviors. The nurse may experience growth by being exposed to evidence based practice guidelines which are incorporated into practice. Alternatively, the nurse may experience growth after experiencing a patient fall, reflecting on his or her practice, seeking out fall prevention strategies and incorporating them into his/her practice.

**Spirituality.** Friedemann (1995) describes healthy spirituality as congruence and unity with other systems, experiencing a sense of belonging, acceptance, respect, wisdom, and inner peace. A congruent nursing system is encouraged when the nurse is open to the patient’s energy (Friedemann, 1995). The nurse completes an assessment and works with the institutionalized older person to develop an individualized fall prevention plan which respects the person’s autonomy.

**The process dimensions.** Friedemann (1995, 2013) describes the process dimensions of system maintenance, system change, coherence, and individuation which
include behaviors that are utilized to reach system targets of stability, growth, spirituality, and control.

**System maintenance.** System maintenance includes those actions which maintain physical, emotional and social needs, and reduce the threat of change, some of which are sustained through a lifetime (Friedemann, 1995). Friedemann (1995) states that if a person possesses flexibility, openness to examine options, respect for diversity, and has doubt about beliefs and values; the person may be able to change patterns without experiencing pain and struggle. System maintenance behaviors are used to reach targets of control and stability (Friedemann, 1995, 2013). A nurse who is unsure of his or her skills may be receptive to incorporating new strategies to prevent falls into his or her practice more easily than a nurse who has ‘always done it this way.’

**System change.** System change results from pressure from within oneself or from the environment to test values and set new priorities (Friedemann, 1995). According to Friedemann (1995), the person consciously decides to accept or not accept information, change, or values as the person strives toward the targets of control and growth. For example, a nurse, whose rehabilitation unit is experiencing an increase in patient falls, discovers an article that encourages a new fall prevention strategy. Motivated to improve the safety of the patients in her rehabilitation unit, she incorporates the new strategy.

**Coherence.** Coherence is described by Friedemann (1995) as the joining of a person’s subsystems to the whole and all the behaviors needed to maintain the unity. Coherence behaviors involve the physical body and psychological constructs such as self-esteem, body image, self-confidence, personal identity which contribute to reaching the
targets of stability and spirituality (Friedemann, 1995). New nurses may perform more frequent checks on their patients because they are not confident that their assessment of the patient is accurate.

**Individuation.** Individuation is the process in which the person interacts with other systems of their choice and through these interactions lead to targets of spirituality and growth (Friedemann, 1995). Friedemann (1995) describes actions of individuation to include intellectual and physical activities that lead to learning about self and others, different perspectives, and sense of purpose in life. An example of individuation is a nurse who attends a seminar to learn about fall prevention and networks with colleagues.

**Synthesis of the framework.** Friedemann’s (1995, 2013) framework of systematic organization is fitting as a guide for this study, because it can be utilized to illustrate the strategies used by nurses to facilitate their own growth and change in practice, strategies to keep the institutionalized older person safe, and the coping mechanisms that a nurse may use to reestablish congruence after a crisis such as a fall. Figure 1 is the Systemic Process by Friedemann, (1995, 2013) nurse’s strategies in response to a patient fall. In times of crisis, such as a patient fall, the nurse may experience anxiety making it necessary for adjustments within the system targets to help re-establish the balance.
Figure 1. The Systemic Process (Friedemann, 1995, 2013).

**Review of Research Literature**

The research literature related to the topic of nurse’s experiences when a patient falls, or a fall is prevented, is sparse and indicates a need for further study. The literature reviewed within this section includes five studies regarding fall prevention, three studies which describe the nurse’s experience when a patient falls and two studies that describe practice change related to patient falls.

**Preventing falls in the rehabilitation setting.** The rehabilitation patient population presents a unique set of issues to the usual fall prevention strategy. Developing an individual fall prevention strategy for the rehabilitation patient should
begin with a proper assessment of the patient’s risk of falling. No fall risk assessment can identify those at risk for falls with 100% accuracy. Two studies within this section describe the views of nurses, nurse assistants and patients as to why falls occur and how falls can be prevented (Carroll, Dykes & Hurley, 2010; Dykes et al., 2009). The final three studies suggest the need for a more rehabilitation specific fall risk assessment (Ferrari et al., 2012; Forrest et al., 2012; Kwan et al., 2012).

Dykes et al. (2009) completed a qualitative study with nurses (n=23) and nurse assistants (n=19) who took part in one of eight audiotaped focus group interviews. The nurses and nurse assistants were in separate groups for interviews. The nurses and nurse assistants worked at one of four acute hospitals within the same hospital system in the United States. The purpose of the study was to learn the views of RNs and nurse assistants about why patients in acute care hospitals fall and how to prevent falls. Each focus group was facilitated by a moderator using pre-planned questions and using clarification. Data were transcribed into Microsoft Word, coded into NVivo software, open-coded for meaning and selectively coded using a 2-person consensus approach. Researchers used raw data, codes, field and reflective notes to ensure reliability and validity. This resulted in six concepts that are reasons for patient falls or suggestions to prevent falls including patient report, information access, signage, environment, teamwork, and involving patient/family. RN and nurse assistant groups both commented that patient report accuracy was variable. The RNs received report prior to their shift while the nurse assistants often worked for hours without patient report. The medical record included information about the patients fall risk and type of assistance needed, however the information was not readily available. The nurse assistants did not have
access to the medical record. Both nurses and nurse assistants valued visual cues such as signage, wrist bands, bed alarms as communication of fall prevention strategies, although some commented that staff becomes immune to them. Both groups spoke of modifications to the environment; however, some were unaware of what assistive devices were available and how to obtain them. All respondents spoke about the need for teamwork including watching over each other’s patients, covering for each other during breaks, and learning from other disciplines, specifically physical therapy and occupational therapy. Both RNs and nurse assistants recognized the need to involve patients and families in fall prevention efforts, namely by encouraging patients to call for help before getting up (Dykes et al., 2009). Limitations included a small sample size and, because the study was of participants employed by one hospital system, results may not be transferable to other situations (Dykes et al., 2009, Speziale & Carpenter, 2007).

The patient experience of falling and patient’s suggestions for preventing falls were explored in a study by Carroll et al. (2010). Patients were asked (during semi-structured, tape-recorded interviews at the bedside) to describe their experience of falling, speak about their injury, if they were informed about their risk of falling, and for any thoughts about how to prevent falls in the hospital. The sample (n=9) included participants two men, seven women with an age range of 24 to 78 from a United States hospital. Length of stay for the patients ranged from one to forty-eight days, with an average length of stay when the fall occurred being 14 days. Data were transcribed into Microsoft Word, coded into NVivo software and open-coded for meaning. A two-person approach was used to open code the text, then codes were compared and selectively coded to identify core categories. Researchers used raw data, codes, field and reflective
notes to ensure reliability and validity (Miles & Huberman, 1994). Two main themes emerged as reasons why patients fell: the need to toilet and either loss of balance or unexpected weakness (Carroll et al., 2010). Other reasons mentioned less frequently included not getting enough physical therapy, not having possessions within reach, and not getting a response from staff in a timely manner. Patients suggested that they themselves need to be pause to think about their physical abilities before trying to get up on their own and not be concerned that they were bothering the nurse when calling for help. Implications for nursing based on patient suggestions were to inform the patient that he or she is at risk for falling and what the patient and team can do to reduce the risk, communicate the plan to prevent falls to the entire team, and clearly communicate to patients that they are not bothering the nurse when calling for assistance. Limitations included a small sample size, a wide age range of participants (24-78 years of age) with a mean of 61.2 years of age, and a wide range of length of stay for participants (one to forty-seven days) (Carroll et al., 2010).

A retrospective chart review of patients who fell (n= 35) and patients who did not fall (n= 35) was completed by Kwan et al. (2012) to evaluate demographic variables, Functional Independence Measure (FIM) scores (Ottenbacher, Hsu, Granger, & Fieldler, 1996) and Morse Fall Scale Scores (Morse, 1996). The FIM is the most widely used scale to measure disability and has demonstrated high reliability (Kwan et al., 2012). Ottenbacher et al. (1996) reviewed eleven published studies (1568 patients) which measured reliability of the FIM. Median interrater reliability for the total FIM was .95, median test-retest was .95 and equivalence reliability was .92 (Ottenbacher et al. 1996). Kwan et al. (2012) state that the Morse Fall Scale was validated in acute care hospital
settings, long-term care, and rehabilitation hospitals in Morse’s (1996) work where interrater reliability was $r = .96$. Patients in the sample were between the ages of 13-93 with diagnoses of stroke, traumatic brain injury, spinal cord injury, or orthopedic surgeries from a 68-bed inpatient rehabilitation facility in Southern California (Kwan, et al., 2012). Independent t-tests were used to examine differences in age and FIM scores between those who fell and did not fall. No significant differences were discovered between the ages of those who fell (63.3) and those who did not fall (66.7). No significant differences were noted based on gender. Related to diagnosis, only orthopedic diagnosis had differences in numbers with 6 fallers and 13 among the non-fallers, which was not statistically significant. A strong correlation was found between the admission FIM score and the patient’s risk of falling. No significant difference between fallers and non-fallers were found using Mann-Whitney tests to assess Morse Scale scores. The Morse Scale rated 86% of fallers 91% of non-fallers as being at high risk to fall. Significant differences ($p< .05$) between fallers and non-fallers were discovered when comparing individual and combined motor, cognitive, and cumulative FIM scores. Results indicated that physical and mental functioning was a more important predictor of fall risk than age or medical conditions. These researchers urge nurses to complete an assessment for fall risk immediately upon admission. Kwan and colleagues also questioned whether current fall assessment tools meet the needs of general rehabilitation facilities and call for more research to develop an assessment tool for rehabilitation patients. This study had several limitations including a retrospective study design with a variety of staff completing the scales making it possible for inconsistency, small sample
size, and the wide range in ages of participants (13-93) with a mean age of participants being 65 years (Kwan, et al., 2012).

Forrest et al. (2012) completed a retrospective chart review of patients (n=1732), ages 14 to 91, admitted to Albany Medical Center inpatient rehabilitation to determine if the admission FIM (Ottenbacher et al., 1996) score could be an indicator of risk of falling and to determine the success of a multifactorial program to reduce falls. Records were reviewed to determine if the program reduced falls from January 2006 to December 2009 (Forrest et al., 2012). The relationship between FIM and rate of falls was evaluated by logistical regression. Influence of age, gender, and impairment group were analyzed using chi-square and student’s t-test. There were no significant differences in age and gender in rate of falls. The rate of falls was significantly correlated with the total FIM score, the score on the motor portion and the score on the cognitive portion of the FIM. Twenty percent of patients who scored a total FIM score ranging from 18-65 suffered a fall, compared with 3.3% who fell and scored 85-117 on the total FIM. No score completely excluded the risk of fall; however the addition of one point on the FIM reduced the likelihood of a fall by 0.955%. Patients scoring in the lowest quartile of the total FIM, motor FIM, and cognitive FIM had an increase in fall rate as follows: 19.91% for total FIM, 17.3% in motor FIM, and 17.8% in cognitive FIM. Fall rates were higher for patients with the diagnosis of stroke (16.8%), spinal cord injury (12.5%), brain injury (13.2%), amputation (12.8%), or other neurologic disorders (9.6%) compared to those patients with pulmonary (7.1%), cardiac (5.9%), trauma (3.1%), orthopedic (1.5%), or debility/medically complex diagnosis (1.3%). Results indicated that a multifactorial program reduced falls in the inpatient rehabilitation facility. The facility experienced a
significant decrease in fall rates from 2006 (12.5%) to 2009 (7.3%). The authors encouraged initiating a multifactorial program to reduce falls led by the nurse manager (Forrest et al., 2012). Limitations included a retrospective study design, convenience sample of patients from only one setting and the wide range in ages of participants (14-91) with the average age of participants being 64.9 years old (Forrest et al., 2012).

A retrospective descriptive study was completed by Ferrari et al. (2012) to explore the association between seven fall risk factors (cognitive impairment, inattentiveness, impaired mobility, incontinence, history of falls in past 3 months, age, and gender) and impulsivity-related falls in a Midwestern (United States) community hospital. A convenience sample of hospital records from patients (n= 233) who fell was included in the study with 110 of the patients being men and 123 of the patients being women. The mean age of study participants was 78 years. Multivariate logistic regression was used to evaluate for relationship between impulsivity-related falls and the risk factors. Of the seven risk factors only cognitive impairment (P= .000, OR= .147) and inattention (P= .00, OR= 5.39) were found to be significant contributors to impulsivity-related falls. The authors suggest that identification of those at risk for impulsivity-related falls may be more accurate and effective for older adults. Older adults at risk for impulsivity-related falls may require advanced nursing interventions, monitoring devices, and more frequent and specialized supervision (Ferrari et al., 2012). Limitations of the study mentioned by Ferrari et al. (2012) were: 1) the sample was from a small community hospital and could differ from other sites and 2) measures of cognitive impairment and inattention for those in the study were from screening tools rather than specific tests of executive function and response inhibition. The retrospective
design of the study and the lack of data on validity and reliability for the Falls Risk
Assessment Tool were also mentioned as limitations (Ferrari et al., 2012).

**Nurses’ experiences when a patient falls.** Long known is the fact that nurses
caring for patients who fall may experience guilt, stress, and self-doubt that may have a
negative impact on their delivery of nursing care (Brians, Alexander, Grotta, Chen, &
Dumas, 1991). Only minimal attention has been given to nurses’ perspectives of patient
falls in that three studies were identified in: 1) nursing home facilities (Struksnes,
Bachrach-Lindström, Hall-Lord, Slaasletten, & Johansson, 2011), 2 ) hospital acute care
units (Rush, et al., 2009) and 3) rehabilitation settings (Turkoski, et al., 1997).

Struksnes and colleagues (2011) completed a cross-sectional study with nursing
staff (n= 63), registered nurses and student nurses, who worked in a nursing home on four
special care units in Norway for patients with dementia. The purpose of the study was to
describe the nurses’ opinion on causes of fall, fall prevention, routines of documentation
and report, and reactions when falls occur. Data were gathered through a 64-item
questionnaire and analyzed using descriptive statistics. The questionnaire was developed
from previous studies by Cameron et al. (2010) and Johansson, Bachrach-Lindstrom,
Struksnes & Hedelin (2009) which uncovered four relevant aspects of fall prevention
(Struksnes et al., 2011). The questionnaire was piloted for clarity with four individuals
prior to its use in the study. The nurses indicated that falls were most often caused by
impairred physical and cognitive condition of the patient. Fall prevention strategies
included conversation, closeness, and assistance with personal hygiene. The findings also
revealed a lack of, or uncertainty about, routines of documentation and reporting fall risk
and fall preventing interventions. Fall risk was reported to be included on care plans by
only 60% of respondents. While nearly all respondents (90%) reported that they had sufficient competence in fall prevention, they seldom felt stress, unease or guilt related to being present in fall situations. Although not statistically significant, the registered nurses tended to feel stress in relation to fall situations to a higher degree than the student nurses. Limitations to the study were a small sample size and sample distribution (Struksnes, et al., 2011).

Rush et al. (2008) described the results of a qualitative descriptive study to explore the nurses’ perspectives of patient falls. Nurses (n= 15) from three general medical surgical inpatient hospital units in South Carolina were involved in focus groups which were audio-recorded, transcribed and analyzed thematically. Results included that the nurses used strategies of assessment, monitoring and communicating to determine that patients were free from harm. Nurses described their experience of falls prevention as 'knowing the patient as safe,’ an ongoing affirmation that the patient was free from harm. In this focused, narrowly defined and highly specific knowing, nurses employed the key strategies of assessment, monitoring and communicating. Variable conditions influenced whether these strategies were effective in giving nurses the knowledge they needed to keep the patient safe. When strategies failed to provide nurses with knowledge of their patients as safe and patients fell, this created considerable stress for nurses and prompted them to use a range of coping strategies. The study’s small sample size and inclusion of nurses working only the day shift were limitations (Rush, et al., 2008).

This study is designed to describe rehabilitation registered nurses’ experiences when a patient falls, or a fall is prevented, and if the nurse’s reflection on these events changed their practice, expanding Turkoski and associates’ (1997) work and differing
from other research that has focused on fall risk factors or the efficacy of fall prevention programs. In the descriptive study published by Turkoski et al. (1997), the purpose was to describe the nurses’ thoughts about falls and variables which impact nursing decision-making related to preventing falls. The study was conducted at a major health rehabilitation center in northeastern Ohio. The sample included registered nurses (n=14) who agreed to complete a demographic questionnaire and an in-depth semi-structured, audiotaped interview. Interviews were transcribed on paper; responses were analyzed individually following rigorous content analysis, allowing common themes to emerge. The four themes were: “1) why patients fell, 2) identifying those at risk for falling, 3) preventing patient falls, and 4) nurses’ feelings about patient falls” (p. 126). The study identified variables not identified in previous literature including the ability of the nurse to recognize subtle clues, and recognizing the need for proactive fall prevention strategies. The study also found that nurses had feelings of guilt and self-blame when their patients fell. These researchers caution projecting results to wider populations due to the small size of this study and the self-selected participants (Turkoski, et al., 1997).

**Practice change related to patient falls.** Speziale and Carpenter (2007) describe Carper’s (1978) work on ways that nurses develop nursing knowledge. Carper names the following four ways for knowing: empirical knowing, aesthetic knowing, personal knowing, and moral knowing. Empirical knowing occurs through presentation of science, while aesthetic knowing is the more abstract art of nursing. Personal knowing is described as one’s ability to change and requires that the individual know oneself. Finally, moral knowing involves traditional principles and codes of ethics or conduct.
(Speziale & Carpenter, 2007). A nurse may utilize some or all of the ways of knowing while developing his or her nursing practice depending on the situations encountered.

Effective reflection is described by Asselin and Cullen (2011) as a conscious and dynamic process of thinking about, analyzing, and learning from an experience; ultimately giving new insights to self and practice. Asselin and Cullen outline a three phase format for reflection (Kim, Lauzon Clabo, Burbank, Leveillee, & Martins, 2010) which includes the descriptive phase (a narrative of the situation including feelings and thoughts); the reflective phase (practice is compared high-quality standards of nursing, reflect on situational influences on practice and intentions that motivated practice); and the critical phase (identify gaps in knowledge and necessary changes to practice or attitude). Utilizing a process such as reflection as a learning strategy has many advantages. Reflection promotes learning from experience, helps the learner transfer facts from one context to another, helps provide links from the reality of nursing to the ideal nursing practice, promotes critical thinking, and helps demonstrate how to become a lifelong learner (Rowles & Russo, 2009).

Dempsey (2009) completed a mixed methods study to examine nurses’ professional values, self-esteem, work satisfaction and falls prevention behavior to determine if these were affected by an intervention to improve decision-making related to falls prevention practice. The convenience sample included nurses (n=130) from regional New South Wales, Australia who participated during various phases of the study. Phase one was a pre-survey which included 95 nurses. Phase two included practice change management projects, in which 36 nurses participated. Finally, phase three was a post-survey, which included 96 nurses. Self-esteem, professional values and work satisfaction
were measured using Rosenberg Self-Esteem Scale (Rosenberg, 1985), Nursing Professional Value Scale (Weis & Schank, 2000), and Index of Work Satisfaction (Stamps & Piedmonte, 1986). A Nursing Falls Risk Management Tool was developed to measure adherence to expected behavior. Interrater reliability testing on the Nursing Falls Risk Management Tool resulted in 93% agreement between clinician responses and a content validation index result of 0.92, which was statistically significant ($p < 0.05$) (Dempsey, 2009). Carpenter, Brockopp, and Andrykowski (1999), as cited by Dempsey (2009), determined the Rosenberg Self-Esteem Scale to have adequate internal consistency (alpha coefficient = 0.92) and construct validity. The Nursing Professional Value Scale was determined to be reliable (alpha= 0.94) and valid by factor analysis with varimax rotation. Internal consistency was determined for the seven codes used in the study as alpha 0.94. Stamps and Piedmonte (1986), as cited by Dempsey (2009), established reliability (alpha coefficient = 0.82003 and Kendall’s Tau = 0.9213) and validity through factor analysis with varimax rotation for the Index of Work Satisfaction. Falls were calculated using the number of patient falls per 1000 occupied bed days and compared to the preceding five years using a non-paired t-test. Mann-Whitney U-test was used to compare group differences between intervention and non-intervention groups (Dempsey, 2009).

Dempsey (2009) found that the 46% of nurses had positive self-esteem and 35% had an average balanced view of themselves. The Rosenberg Self-Esteem Scale showed no differences between groups in Phase 1 (Mann-Whitney $U$: $Z = -0.05$, $p = 0.960$) or Phase 3 (Mann-Whitney $U$: $Z = -1.15$, $p = 0.249$). In general, the nurses who participated in the study were found to be dissatisfied with their work and practice development.
projects did not significantly impact the nurses’ overall work satisfaction. The 50\textsuperscript{th} percentile was used as the threshold for satisfaction in the study (Dempsey, 2009).

During Phase 1, nurses in the intervention group were more satisfied (not statistically significant) with Mann-Whitney $U: Z = -1.26, p = 0.206$ (Dempsey, 2009). During Phase 3, there was no significant difference between the groups (Mann-Whitney $U: Z = -0.50, p = 0.614$); however the intervention group was rated as dissatisfied. Nurses in all phases of the study were found to have very positive values with no significant differences, results in Phase 1 were Mann-Whitney $U: Z = -0.19, p = 0.852$ and Phase 3 results were Mann-Whitney $U: Z = -1.39, p = 0.166$. Providing unrestricted, dignified and humanistic services based on respect or human dignity was ranked the highest rated value of those in the Nursing Professional Values Scale. Nurses’ utilization of fall prevention strategies improved on average from 69\% to 81\%. The most improved component was fall assessment; the poorest was nursing communication. The facility did experience a 9\% decrease in falls and a 5\% reduction in total number of falls in the year during phase two interventions. This was not a significant reduction but the author noted that it was the first reduction in falls in 6 years. Dempsey (2009) concluded that measurement of self-esteem, professional values and work satisfaction suggests that practice change resulted from participation in work-related decision making rather than change in attitudes. Limitations for this study included the quasi-experimental nature, convenience sample, and real world situation; therefore variables that could affect results were difficult to control (Dempsey, 2009).

Stenberg and Wann-Hansson (2011) completed a qualitative study to describe influences on health care professionals’ attitudes to clinical practice guidelines for
preventing falls and fall injuries. The study included physicians (n= 4), registered nurses (n= 15), physiotherapists (n= 3), and an occupational therapist (n= 1) from a university hospital in southern Sweden who were involved in focus groups. Manifest and latent content analysis was used to describe responses during the focus groups. The transcripts were read and re-read, then coded by each of the study authors individually. The data were then compared and discussed to determine categories and sub-categories. The categories of experiencing a course of events and influence of social factors emerged. Results indicate that health care professionals' attitudes and compliance with clinical practice guidelines for fall prevention seem to be mainly dependent on previous fall events with negative consequences. The fall experience led to greater motivation to use clinical practice guidelines. Experiencing negative consequences made it possible for participants to see the positive outcomes associated with using clinical practice guidelines. Social factors including community obligations (laws and ethics), organizational resources (clear leadership, team competence, physical environment), and individual resources (ethics, motivation, knowledge) were important for implementation and compliance with clinical practice guidelines. Findings from the study may help organizations develop and implement clinical practice guidelines for fall prevention. Leadership must prioritize and implement the process, define roles, motivate, promote teamwork, and evaluate outcomes. Technical support and physical environment changes may be necessary to increase long-term compliance. Some focus groups lasted less than one hour; Stenberg and Wann-Hansson (2011) expressed concern that the timeframe was not long enough for deeper reflection. Within the focus groups, the nurses and physicians were more eager to participate than the therapists although the authors did not note group
hierarchies (Stenberg & Wann-Hansson, 2011). Stenberg and Wann-Hansson (2011), cite the work of Kitzinger (1995), who stated that hierarchies within a group or an individual that dominates the group can affect the data. Thus caution must be used in transferring these findings to other settings where group hierarchies may exist.

**Synthesis of Research Literature**

The research presented in this chapter described healthcare professionals’ and patient’s ideas for fall prevention, the nurse’s experience when a patient falls, and practice change related to patient falls. The study from Dykes and associates (2009) described thoughts from nurses and nurse assistants regarding patient falls and offered many helpful suggestions. One of the most important messages from this study is the importance of communication when preventing falls. Participants all mentioned needed improvements to communication such as signage, wrist bands, individualizing fall prevention strategies, and more timely communication to all staff members (Dykes et al., 2009). The nurses and nurse assistants also recognized the importance of an interdisciplinary approach which included better interdisciplinary communication and opportunities to learn from other disciplines (physical therapy and occupational therapy) (Dykes et al., 2009).

Carroll et al. (2010) share the patient’s view of why falls occur including: the need to toilet and loss of balance or unexpected weakness, other reasons were lack of physical therapy, having to reach for possessions, and an untimely response from staff when called. Patients, nurses and nurse assistants in both studies saw a need for the patient to be more involved in preventing falls, making nurse to patient communication of
the patient’s fall risk status and the plan of care increasingly important (Carroll et al., 2010; Dykes et al., 2009). Carroll et al. (2010) also stressed the importance of the nurse encouraging the patient to call for assistance before getting up.

Kwan et al. (2012); Ferrari et al. (2012) and Forrest et al. (2012) discuss the current fall risk assessment tools and suggest that current tools utilized to assess risk of falling do not meet the needs of patients in all nursing care environments. All support a falls assessment completed early in the patient’s admission; what differs is which assessment tools is the most accurate predictors of falls. The admission FIM score was found in two studies to be a strong predictor of the patient’s risk of falling (Forrest et al., 2012; Kwan et al., 2012). Forrest et al. (2012) further explain that patients who scored lowest in the mobility, cognitive, and total FIM sections were at highest risk for falls. Ferrari et al. (2012) suggest that assessing for risk of impulsivity-related falls may be more effective for older adults.

In the three studies about nurses’ experiences when patients fall; nurses reported feeling some to considerable stress, guilt and self-blame (Rush et al., 2008; Struksnes et al., 2011; Turkoski et al., 1997). The studies also demonstrated the valuable resource of the bedside nurse when identifying subtle clues for fall risk and successful strategies to prevent falls (Rush et al., 2008; Struksnes, et al., 2011; Turkoski et al., 1997).

The research regarding practice change revealed that a variety of motivators exist for initiating practice change. Dempsey (2009) found that nurses were not motivated by work satisfaction or attitude but through their involvement in work-related decision making. Nurses who participated in the study highly valued the ability to provide
unrestricted, dignified, humanistic services based on respect and human dignity (Dempsey, 2009). Somewhat different from Dempsey’s results, Stenberg and Wann-Hansson (2011) found that health care professionals’ attitudes and compliance with clinical practice guidelines were mainly dependent on a previous fall with negative consequences and leadership oversight of the fall prevention program. Other important motivators included community obligations, organizational resources, and individual resources (Stenberg & Wann-Hansson, 2011).

Summary

Evidence based nursing information related to patient falls is widely available to the individual nurse. The studies reviewed, described several motivators for incorporating evidence based practice such as the nurse being involved in work-related decision making, a prior patient fall with negative circumstances, and close leadership oversight of the fall prevention program (Dempsey, 2009; Stenberg & Wann-Hansson, 2011). However the research literature is lacking, related to rehabilitation nurses and the meanings associated when an institutionalized older person falls or a fall is prevented, as well as how this event impacts their practice. The process by which nurses become aware of best practice to the point where they incorporate best practices into their care of the patient is not fully understood. This current study seeks to ask the expert (the rehabilitation registered nurse) what it means to them when an institutionalized older person falls or a fall is prevented, and does this experience create a change in their practice. The method for data collection and analysis is discussed in the next chapter.
Chapter 3

Method

The rationale for studying the rehabilitation nurse’s experiences of what it means (what is thought or felt) to the nurse when an institutionalized older person falls, or a fall is prevented, and if those experiences resulted in a change in nursing practice was presented in Chapter 1. A literature review in Chapter 2 supported the rationale for this study. The research study design, sample population, materials used in the study, sampling process or data collection, and process for data analysis are discussed in this chapter.

Design

The study was a descriptive design to describe rehabilitation registered nurses’ meanings of the experience when an institutionalized older person in their care fell, or a fall was prevented. Additionally, nurses were asked to describe if the fall, or prevention of a fall, caused a change in their practice.

Participants

With permission of the Association of Rehabilitation Nurses, members from four states, which are home to the largest proportion of older adults, were invited to participate (See Appendix B). Florida has the greatest proportion of people who are at least 65 years of age (17.3 %), followed by West Virginia (16 %), Maine (15.9 %), and Pennsylvania (15.4 %) (Brandon, 2012). According to the National Coalition on Aging (NCOA) Pennsylvania Profile, every year one third of adults age 65 and older fall, and one third of
those sustain an injury (NCOA, 2012). Those who fall are 2 to 3 times more likely to fall again and each fall increases the likelihood of serious injury or death (NCOA, 2012). Whiteman, Davidov, Tadros, and D’Angelo (2012) state that falls, the number one cause of injury-related morbidity and mortality, are especially troublesome for West Virginians due to prevalent comorbidities in the elderly population of this state. As the leading cause of fatal and non-fatal injuries among the state of Florida’s older population; falls accounted for 1,714 fatalities and 42,754 hospitalizations for non-fatal injuries in 2009 (Florida Department of Health, 2009). Falls are the leading cause of injuries and hospitalization for older persons in the state of Maine (Belza & the PRC-HAN Physical Activity Conference Planning Workgroup, 2007). Maine and Florida are among eight states that have enacted legislation related to prevention of falls by funding programs (National Conference of State Legislatures [NCSL], 2012). According to NCSL (2012), Maine has a law requiring a Falls Prevention Coalition to determine costs related to falls in older persons and most effective strategies for reducing falls and health care costs associated with falls. Maine also has pending legislation related to prevention of falls in community-dwelling older adults (NCSL, 2012). With the University of Toledo Institutional Review Board (IRB) approval (see Appendix C), the convenience sample of members (n= 747) of the Association of Rehabilitation Nurses (ARN) from Florida, West Virginia, Maine, and Pennsylvania were approached.

**Inclusion criteria.** Participants included the convenience sample of nurses who are members of ARN and were from Florida, Pennsylvania, Maine, and West Virginia. Participants needed Internet access in order to complete the Survey. It is anticipated that minorities were embedded within this sample. No racial/ethnic groups were excluded.
Exclusion criteria. Nurses who did not read, write, or understand the English language were excluded, as the Survey is in the English language.

Material

Potential rehabilitation registered nurse participants were mailed a Letter of Invitation to Participate (See Appendix D) describing the study and inviting their participation in a Survey (See Appendix A). Participants were given a password-protected web address within the text of the letter to access and complete the Survey online. They were asked to complete the Survey via the Internet within one week of receipt of the Letter. Contact information for the investigators was provided for the potential participants who had questions or concerns. Those who wanted a Summary of the study results were encouraged to contact the Thesis Committee Chair/investigator. Participants’ consent to contribute to the study was implied upon completion and return of the Survey via the Internet.

Letter of invitation to participate. The Letter of Invitation to Participate explained to potential participants that they were one of 747 rehabilitation registered nurses from Florida, West Virginia, Maine, and Pennsylvania who were members of the ARN. They were asked to complete a one-time online Survey. The letter provided the potential participant with the following information: 1) a request to complete the Survey via the Internet, 2) voluntary participation, 3) consent to participate, 4) confidentiality and anonymity, and 5) investigators’ contact numbers should he/she desire more information. The letter noted that the first section of the Survey included questions asking potential participants for information about themselves and the second section included
questions asking the rehabilitation nurse to tell what it meant to have an institutionalized older person fall or prevent a fall and if the experience changed his or her practice (See Appendix D).

Survey. Potential participants were asked to complete investigator-generated demographic information in Part 1 of the Survey that included the respondent’s educational background, nursing certification, institutionalized rehabilitation practice settings, primary rehabilitation diagnosis of patients, number of years as a rehabilitation nurse, age, gender, and ethnic background, as well as the state in which he or she was employed. Part 2 of the Survey contained seven (7) open-ended questions (See Appendix A). These questions were based on Turkoski and associates’ (1997) study that used interviews to explore nurses’ thoughts about inpatient falls and identified variables that have an impact on nurses’ clinical decision-making related to preventing patient falls. The questions were also reviewed for content based on the literature and practice experiences of the four primary investigators and three other rehabilitation nurses. These investigators are experts in the field of rehabilitation and geriatric nursing, as well as developmental psychology and three are experienced in survey design and qualitative research methods. The three rehabilitation nurses from northern Ohio were professionals who were skilled in dealing with older institutionalized adults who fall.

Specifically, rehabilitation nurses responding to the Survey were asked to think about an older person (at least 65 years of age) they have cared for at their job in the past year who fell and respond to questions asking for: 1) a brief description of what happened; 2) the meaning (how he or she thought or felt) to the nurse when the person fell; 3) an explanation of the change in practice if this occurred. The nurses were also
asked to think of a time that they prevented an older person from falling at their job and respond to the following questions requesting: 1) a brief description of the situation including the fall prevention strategy used; 2) the meaning (how he or she thought or felt) when the nurse prevented the fall; and 3) an explanation of the change in practice if this occurred. There was also space for any additional comments.

Data Collection

Sampling. This study included convenience sampling rehabilitation nurses (n=747) who are members of the Association of Rehabilitation Nurses (ARN) from the States of Florida, Pennsylvania, Maine and West Virginia. As members of ARN, the nurses work in a variety of settings including acute inpatient rehabilitation hospital or a free standing rehabilitation hospital, nursing homes, or assisted living settings where they care for institutionalized older persons. Individuals were selected to participate because of their first-hand knowledge of an experience with the phenomenon of interest (Speziale & Carpenter, 2007). Therefore, those rehabilitation registered nurses who have cared for an institutionalized older person who has fallen, or prevented a fall, had the opportunity to share their experience. Participants, who have experienced both a fall and prevention of a fall, may have chosen to share the meanings of both experiences. All participants could choose to share how these experiences changed their practice.

Protection of human subjects. The University of Toledo Institutional Review Board (IRB) approval for this study implies protection of human subjects (see Appendix C). Confidentiality and anonymity were protected by assuring the participants’ name would not appear on any portion of the Survey or linked electronically to them when the
Survey is returned. Participants could refuse to answer any questions on the Survey by leaving the question blank. There was minimal risk to participants. If participants found a question emotionally uncomfortable; they were encouraged, in the Letter of Invitation to Participate, to talk about their feelings with supervisors and/ or peers. The investigators minimize the risk of loss of confidentiality by housing data on a secure server at the University of Toledo campus. All participants were informed that the results of this study might be shared with a professional journal and its readers.

**Data collection and recording.** Open-ended questions were used to allow participants the opportunity to fully describe their experience (Speziale & Carpenter, 2007). Speziale and Carpenter (2007) state that written narratives, such as the Survey in this study; permit participants a chance to think about what they wish to share rather than having to immediately respond. Participants were able to input their own responses by making selections or typing in responses via the online Survey.

**Validity.** Content validity is the extent to which the instrument measures the intended concept (Burns & Grove, 2009). The instrument, in this case the Survey, was developed with nursing knowledge in mind in order to capture the meaning of the experience to the nurse (Burns & Grove, 2009). The four investigators for this study collaborated and reviewed these questions based on this literature and their practice experience to establish content validity of this Survey. This Survey was also reviewed and tested with three professional rehabilitation nurses in Ohio, who were not part of the sample, for content validity. Using an evaluation tool (see Appendix E), those nurses stated that the Survey directions in the Letter and on the website, space provided to respond, and question clarity within the Survey were “very good” using the Likert Scale
provided (1 = very poor; 2 = poor; 3 = neutral; 4 = good; 5 = very good). They rated Survey access as “poor” and “neutral” and needed additional directions to copy and paste the URL into the address bar so the Survey could be accessed. They found that the Survey could be completed in 10 to 15 minutes.

**Assumptions and limitations.** Burns and Grove (2009) share Silva’s (1981) description of assumptions as statements that are taken for granted as true even though they have not been scientifically tested. One such assumption for this study was that participants considered the patient fall or prevention of a fall, to be an experience that had meaning for the nurse, and that the nurse accepts responsibility for the fall or potential fall. Another assumption was that all nurses are interested in learning more about and growing in their nursing practice, thus their nursing practice becomes changed. It was also assumed the participants in the study were truthful in filling out the Survey.

Limitations are weaknesses in the study which limit the credibility and generalizability of findings (Burns & Grove, 2009). One limitation was the use of convenience sampling. The ARN membership database offered one way to invite rehabilitation nurses to participate in the study; however, every rehabilitation nurse may not be a member of ARN and not in this database. Additionally, states were chosen based on proportions of older persons who lived in the perspective state. The States selected were in the eastern United States so it is possible that the experiences of the nurses in these states will not transfer to all nurses throughout the country.

**Data analysis.** Demographic data were electronically transferred from the Survey and analyzed using descriptive statistics, e.g., percent and means, etc. Narrative
data from the Survey questions were electronically transferred into Microsoft Word for content analysis.

Efforts must be made to reduce the occurrence of holistic fallacy which is the investigators’ belief that their conclusions are correct and explain the situation (Burns & Grove, 2009). The investigators must reduce bias throughout the study by including strategies such as bracketing, triangulating, and making contrasts and comparisons between data (Burns & Grove, 2009). In order to prevent bias associated with preconceived notions about the rehabilitation nurses experience when a patient falls, or a fall is prevented, and if this experience changes practice; bracketing was implemented in this study. Bracketing involved the investigators identifying and withholding their self-assumptions or ideas about the experience before beginning the study (Burns & Grove, 2009). These assumptions included that nurses think of a fall as failure and preventing the fall as success; the nurse experiences anxiety when a patient falls; the nurse feels personally responsible when a patient falls or a fall is prevented; and that changes in practice will be a result of a patient fall or a prevented fall.

Triangulation was accomplished in several ways. Rehabilitation nurses were included from several practice settings in several states in order to gain a variety of thoughts and feelings about falls and preventing falls. Further triangulation happened when the research team, consisting of a principal investigator, three faculty, and two graduate assistants, individually read and compared participant responses in the data analyses. In addition to comparing responses, the research team met to discuss comparisons and examine contrasts between responses to determine significance. The
validity of themes from this study was strengthened by the consensus of the research team on the emerged themes.

Specifically the narrative data from the returned electronic Surveys were analyzed using Norwood’s (2000) rigorous process of content analysis that consists of three phases: deductive, inductive, and integrative. The deductive phase entailed converting the data from narrative form to more manageable units (Norwood, 2000). One investigator and two graduate assistants along with the other three investigators first read the surveys [uncoded] from the respondents. This enabled them to acquire a sense for the respondent’s description of falls. Next, a category scheme was used and data were sorted. The category scheme was loosely framed within Friedemann’s (1995) framework of systemic organization terms of congruence (feelings of well-being) and incongruence (feelings of anxiety) and the process dimensions at this phase of analysis.

Then, the inductive and integration phases of analysis began (Norwood, 2000). In the inductive phase, the investigators and the assistants identified commonalities that emerged within the categories from these data. These commonalities were then discussed by all four investigators and assistants until consensus was reached which helped to establish credibility of the findings. In the integration phase, relationships between commonalities and variations within the categories were identified and woven together into an integrated whole linked to Friedemann’s (1995) framework. The validity of the categories that emerged was strengthened by the fact that the investigators and assistants came to consensus for the final categories. For the current study, categories were drawn, as appropriate, to Friedemann’s (1995, 2013) process dimensions of system maintenance, system change, coherence, and individuation, as well as congruence.
Summary

This descriptive design was used to discover what is thought or felt by the rehabilitation registered nurse when an institutionalized older person falls, or a fall is prevented, and if these experiences changed their nursing practice. After receiving permission from the ARN to contact its members and university IRB approval, rehabilitation nurses living in Florida, Pennsylvania, Maine, and West Virginia were mailed a Letter of Invitation to Participate which included web address for the Survey. Demographic information from Part 1 of the Survey was analyzed using descriptive statistics. Narrative responses from Part 2 of the Survey were analyzed using Norwood’s (2000) rigorous process of content analysis. Friedemann’s (1995, 2013) framework was applied to themes to gain meaning or an understanding of what it means to the rehabilitation registered nurses’ when an institutionalized older person falls, or a fall is prevented and if these experiences caused a change in their practice. Text for trailing the process of analysis, selected quotations from the participants, as well as results of the analysis, are presented in the next chapter.
Chapter 4

Results

In the previous chapter the research design, data collection procedures, and data analysis were delineated. Results of this analysis of data are presented in this chapter. First, the study sample is described; then results of this study describing meanings to the rehabilitation nurse when an institutionalized older person falls or a fall is prevented, and if this experience changed their nursing practice, are addressed. Findings from all the open-ended questions are presented. This chapter concludes with a summary.

Sample

Association of Rehabilitation Nurses (ARN) members (n=747) from Pennsylvania, Maine, Florida and West Virginia were mailed letters inviting their participation in the web-based Survey. Five letters were returned to the University of Toledo as undeliverable. Five letter recipients emailed to decline participation because they had not provided direct care to an institutionalized older person in the last year. Fifty-three rehabilitation nurses participated in the Survey; a 7% return rate. Of these, forty-two Surveys were complete, although 12 rehabilitation nurses did not experience a fall or prevention of a fall in the last year. Thirty rehabilitation nurses experienced a fall or prevented the fall of an institutionalized older person and answered the open-ended questions.

Participants included forty (95%) women and two (5%) men. The largest age group of participants were those ages 51-60 years (n=15, 36%). The majority of participants were white, not Hispanic origin (n=38, 90%). Most rehabilitation nurses
nurses (n=14, 33%) were the next largest group of participants, followed by Maryland (n=2, 5%), Maine (n=1, 2%), and Ohio (n=1, 2%). Nurses practicing in Maryland and Ohio were not mailed the Survey; however, it is possible that they reside in one of the states included in the Survey.

Sixteen (38%) participants held a Bachelor Degree and eight (19%) had a Master Degree. Thirty-seven (88%) of participants were certified in Rehabilitation Nursing and four (10%) held no certification. Sixteen (38%) of participants reported working as a rehabilitation nurse for 1-9 years and fourteen (33%) reported 10-19 years as a rehabilitation nurse.

The primary institution of practice was in an acute hospital for 24 (57%) participants, followed by 13 (31%) who worked in a free standing rehabilitation hospital. Fourteen (33%) participants cared for patients who were receiving rehabilitation after a stroke. Nine (21%) participants cared for patients after a spinal cord injury and eight participants (19%) chose ‘other’ as primary rehabilitation diagnosis for their patients. Participants who chose ‘other’ further described their patient population as a variety of all choices listed in the survey, hospice and palliative-rehabilitation, multiple sclerosis, geriatrics, or neurotrauma. In Table 1, a complete profile of the demographic information for the participants is presented.
Table 1

Demographics of Rehabilitation Nurses

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Sub-Characteristics (n=42)</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender:</td>
<td>Male</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>40</td>
<td>95</td>
</tr>
<tr>
<td>Age (in years):</td>
<td>21-30</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>31-40</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>41-50</td>
<td>11</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>51-60</td>
<td>15</td>
<td>36</td>
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<tr>
<td></td>
<td>61-70</td>
<td>9</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>71-80</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Ethnic Background:</td>
<td>American Indian/Alaska Native</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Asian/Pacific Islander</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Black, Not Hispanic Origin</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Hispanic Origin</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>White, Not Hispanic Origin</td>
<td>38</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>Other or Unknown</td>
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<td>2</td>
</tr>
<tr>
<td>Practice in the State of</td>
<td>Florida</td>
<td>14</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>Maine</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Maryland*</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Ohio*</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Pennsylvania</td>
<td>24</td>
<td>57</td>
</tr>
<tr>
<td>Highest Degree:</td>
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<td>19</td>
</tr>
<tr>
<td></td>
<td>Associate Degree</td>
<td>10</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>Bachelor Degree</td>
<td>16</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>Master Degree</td>
<td>8</td>
<td>19</td>
</tr>
<tr>
<td>Nursing Certification:</td>
<td>None</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>CRRN</td>
<td>37</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>CNRN</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Years as Rehabilitation Nurse:</td>
<td>Less than 1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>1-9</td>
<td>16</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>10-19</td>
<td>14</td>
<td>33</td>
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<td></td>
<td>20-29</td>
<td>8</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>30-39</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>40-49</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Practice Institution:</td>
<td>Acute Hospital</td>
<td>24</td>
<td>57</td>
</tr>
<tr>
<td></td>
<td>Free Standing Hospital</td>
<td>13</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>Nursing Home</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Assisted Living Facility</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Diagnosis of Rehabilitation Patients:</td>
<td>Orthopaedic Condition</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Spinal Cord Injury</td>
<td>9</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>Stroke</td>
<td>14</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>Traumatic Brain Injury</td>
<td>6</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>8</td>
<td>19</td>
</tr>
</tbody>
</table>

*Some nurses lived in one state and practiced in another.
Findings

**Description of falls.** Subjects provided brief descriptions of the falls, including that falls were unwitnessed, the staff did not respond quick enough, the patient was lowered to the floor, the patient was trying to get up without assistance and equipment or the patient's belongings were not within reach. Unwitnessed falls included situations where the patient was found by staff on the floor during routine rounding or the nurse had returned to the patient’s room after retrieving supplies to find the institutionalized older person on the floor. Falls related to staff response involved safety alarms that were sounding and staff were unable to reach the person before the person fell. Nurses described events when institutionalized older persons lost their balance or became too weak to stand and were lowered to the floor by nurses and family members. In several accounts, the falls occurred when older persons removed safety alarms, misjudged their own ability to ambulate or transfer safely, got up alone to toilet; in each instance, the older person did not ask for assistance from staff prior to trying to get up. Institutionalized older persons also fell from their beds or wheelchairs trying to reach for ambulation equipment or other belongings.

**Meaning of falls: incongruence and congruence.** Five themes were discovered related to the meaning of a fall. Three themes reflect nurses’ negative feelings (incongruence) and two themes reflect nurses’ positive feelings (congruence). Themes reflecting negative feelings include: 1) Feeling Horrible, 2) Feeling Guilty, and 3) Thinking I Failed to Protect the Patient (see Table 2). Themes describing nurses’ positive feelings include: 1) Feeling Thankful There Was No Harm and 2) Thinking It Was Not My Fault, But a System Problem (see Table 2).
Table 2

Meaning of the Fall

<table>
<thead>
<tr>
<th>Theme</th>
<th>Quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeling horrible (incongruence)</td>
<td>“I felt horrible!”</td>
</tr>
<tr>
<td></td>
<td>“I felt upset and concerned.”</td>
</tr>
<tr>
<td>Feeling guilty (incongruence)</td>
<td>“I felt guilty because obviously I had not checked that the bed</td>
</tr>
<tr>
<td></td>
<td>alarm was on when I entered the room.”</td>
</tr>
<tr>
<td>Thinking I failed to protect the patient</td>
<td>“Felt I had failed as a nurse to not protect this patient, and that I</td>
</tr>
<tr>
<td>(incongruence)</td>
<td>was not quick enough to assist her from falling.”</td>
</tr>
<tr>
<td>Feeling thankful there was no harm (</td>
<td>“I was thankful that no injury occurred.”</td>
</tr>
<tr>
<td>congruence)</td>
<td>“I was relieved that she was unharmed.”</td>
</tr>
<tr>
<td>Thinking it was not my fault, but a system</td>
<td>“Just not enough staffing resource to help prevent events such as</td>
</tr>
<tr>
<td>problem (congruence)</td>
<td>this.”</td>
</tr>
<tr>
<td></td>
<td>“Lag time between end of shift and change of staff... may very</td>
</tr>
<tr>
<td></td>
<td>well be contributing to increase risk of falls.”</td>
</tr>
</tbody>
</table>

Negative feelings: incongruence. Negative feelings (incongruence) expressed by nurses within the theme of Feeling Horrible include descriptors such as feeling upset, feeling concerned, feeling bad and feeling terrible. Additionally, the theme of Feeling Horrible includes nurses’ feelings of fear of additional injury to a person who has already suffered a trauma, as was described by a nurse who cares for persons who have suffered traumatic brain injury. Feeling Guilty was conveyed by individuals in situations where they were unable to prevent the fall, provide adequate direct observation, or did not verify that safety alarms were on. Thinking I Failed to Protect the Patient was shared in statements such as “you feel like a failure because you cannot keep your patient safe”.

Positive feelings: congruence. Themes in which the nurse shared more positive feelings include Feeling Thankful there was No Harm and Thinking It Was Not My Fault, But a System Problem. Within the theme Feeling Thankful There was No Harm,
are feelings described the nurse as relief or gratefulness upon realizing that the institutionalized older person was not physically harmed in the fall. One participant shared a variety of feelings; “felt upset, concerned, wanted to make sure that we did all we could to prevent falls… grateful there was no injury.” The theme Thinking It Was Not My Fault, But a System Problem included statements from nurses indicating that issues such as staffing and patient and family compliance caused the fall. One nurse shared “the patient and his wife were educated several times regarding falls…I felt as though they disregarded our teaching moments.” Regarding staffing concerns, one participant shared that staffing resources and the time gap between shifts contributed to falls in his/her institution.

**Practice change after a fall.** Some nurses denied a change in their practice stating that they already follow a robust fall prevention protocol. Nonetheless three themes did emerge: 1) Providing More Education, 2) Increasing Interventions for Safety, and 3) Seeking Interdisciplinary Support (see Table 3). Providing More Education was illustrated by statements such as “I contemplate what I could have done differently, what had happened, how could I have prevented it”, and “educating staff to respond ASAP to alarms sounding.” Examples of patient and family education include consistent teaching by all disciplines, posting transfer and ambulation status in the patient room and encouraging families to call for assistance unless they have been ‘checked off’ by therapy/nursing. Participants’ responses included in the theme of Increasing Interventions for Safety include increased diligence in the use of alarms and faster staff response when alarming, increased awareness for who is at risk for a fall, and hourly rounding. One nurse described how her/his facility made improvements

52
Interdisciplinary Support after a fall by notifying therapy who is a “hand off” to nursing and who needs alarms turned on upon returning to the nursing unit after therapy.

Table 3

Practice Change After a Fall

<table>
<thead>
<tr>
<th>Theme</th>
<th>Quotes</th>
</tr>
</thead>
</table>
| Providing more education (Individuation) | “Educating staff to respond to alarms sounding ASAP.”  
“Reviewing fall protocols with patients.” |
| Increasing interventions for safety (System Maintenance) | “Increase use of chair alarms, self-release belts, signs in bathrooms not to leave patient alone.”  
“1 hour rounding is done with frequent checks on patients.” |
| Seeking interdisciplinary support (Coherence) | “As an interdisciplinary team, we had to again re-examine how to maintain his independence, but also maintain safety.”  
“Immediately after a fall we have what is called a fall huddle with team of people including managers to discuss and review the fall.” |

Description of prevented falls. Participants gave brief descriptions of fall prevention experiences and strategies such as using fall assistance programs and fall risk equipment, having adequate staff for transfers, and having increased fall risk awareness. Use of fall assistance programs included strategies such as 1-hour rounding, call lights kept in reach, pep talks to team members about patient safety, staying with patients while in the bathroom and removing trip items. Fall risk equipment used to prevent falls was described as non-skid slippers, alarms, a fall blanket (neon yellow blanket) placed on the person in W/C or bed to easily identify fall risk, assistive devices to ambulate patient (walker, cane) and gait belt use. Many participants prevented falls by using adequate staff for transfers and ambulation. Nurses described preventing falls when institutionalized older persons were transferring or ambulating unassisted. One
participant shared that a fall was prevented when the nurse and patient’s husband were able to stabilize the patient on the edge of her wheelchair until help arrived. Increased awareness of an institutionalized older person’s risk of falling was described as an important intervention in the following statements: “we intervened by completing a falls risk assessment and evaluating him for some type of restraint”, “patients are assessed for orthostatic hypotension on admission”, and “treatable actions regarding things that makes a patient more agitated has been my focus, i.e. pain, personal care, hunger, and so on.”

**Meaning of preventing falls: congruence.** Participant responses about the meaning of preventing a fall include the following three themes which indicated congruence: 1) Feeling Like a Super Hero, 2) Thinking I Did My Job, and 3) Feeling Lucky and Relieved (see Table 4), all indicating congruence. The theme of “Feeling Like a Super Hero was inspired by a nurse who stated that she felt like Wonder Woman and continued by saying “there was no way I was going to let that man fall”! The theme Thinking I Did My Job when a fall was prevented emerged from statements that said preventing falls was the nurse’s way of giving the patient the best care possible and preventing falls was what nurses are charged to do for patients. Responses indicating Feeling Lucky and Relieved were as follows: “relieved at preventing physical and/or emotional trauma for this resident and staff”, and “I felt that we were lucky and that the patient had really improved from admission.”
Table 4

Meaning of Preventing a Fall

<table>
<thead>
<tr>
<th>Themes</th>
<th>Quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeling like a super hero</td>
<td>“I felt like Wonder Woman.”</td>
</tr>
<tr>
<td>(congruence)</td>
<td>“I felt successful as part of a team approach.”</td>
</tr>
<tr>
<td>Thinking I did my job</td>
<td>“It makes me feel like I did my job.”</td>
</tr>
<tr>
<td>(congruence)</td>
<td>“I feel as though I have accomplished what I as a nurse am charged to do for my patients and those around me.”</td>
</tr>
<tr>
<td>Feeling lucky and relieved</td>
<td>“I was lucky to be in the right place at the right time.”</td>
</tr>
<tr>
<td>(congruence)</td>
<td>“I felt relieved that a possible injury was prevented.”</td>
</tr>
</tbody>
</table>

Practice change after falls prevented. Practice changes emerged as the following three themes: 1) Utilizing Fall Assistance Programs and Equipment, 2) Seeking Adequate Staff for Transfers, and 3) Being Aware of Fall Risks (see Table 5). Nurses illustrated Utilizing Fall Assistance Programs and Equipment in responses such as “when new patients come into the facility, I tend to use bed alarms for the first few nights to evaluate the need.” Seeking Adequate Staff for Transfers was illustrated in the statements “I ask patients if they are able to help as usual and I do not hesitate to get help even when another person should not be required” and “I specify to visitors not to help with transfers unless they have been instructed in proper transfer.” Being Aware of Fall Risks was described by nurses who now have an increased awareness of those at risk for fall and nurses who provide timelier follow-up with those patients assessed as at risk for fall.
Table 5.

**Practice Change After Fall is Prevented**

<table>
<thead>
<tr>
<th>Theme</th>
<th>Quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilizing fall assistance programs and equipment (System Maintenance)</td>
<td>“I am more cautious on selecting types of beds for patients.”</td>
</tr>
<tr>
<td></td>
<td>“Provide safety interventions to all patients.”</td>
</tr>
<tr>
<td>Seeking adequate staff for transfers (System Maintenance)</td>
<td>“I will use two people to transfer patients who are variable in their</td>
</tr>
<tr>
<td></td>
<td>ability to transfer.”</td>
</tr>
<tr>
<td></td>
<td>“Will call for additional staff in high risk patients.”</td>
</tr>
<tr>
<td>Being aware of fall risks (Individuation)</td>
<td>“Makes me more aware of prioritizing timely follow up assessments in</td>
</tr>
<tr>
<td></td>
<td>patients that are fall risks.”</td>
</tr>
<tr>
<td></td>
<td>“Reinforced importance of observing for trip items during initial</td>
</tr>
<tr>
<td></td>
<td>assessment.”</td>
</tr>
</tbody>
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**Additional responses.** Twelve participants shared additional thoughts at the end of the Survey to help explain the experience of institutionalized older adults and falls. Nurses shared that falls were difficult to prevent: “falls are going to happen” and “not all falls are preventable, but we need to continue to be proactive.” Nurses also shared the challenge of encouraging “independence and protecting the patient” and “falls are difficult to prevent in the setting where I work, as there is such a fine balance between safety and independence/dignity.” Suggestions for preventing falls include bed alarms which are audible throughout the unit and indicate the location of the alarm. The approach taken by the Manager when discussing events of a fall was mentioned. The conversation was perceived as non-threatening when the nurse is asked “tell me what happened” versus a threatening approach such as “where were you or what were you doing when Mr./Mrs. fell.” Finally, one participant shared that safety issues are reported in a hospital- wide safety huddle which has “impressed the importance on all departments.
that we all have the obligation to answer patient lights and be observant of opportunities to assist patients.”

Summary

The purpose of this study was to describe rehabilitation registered nurses’ meanings associated with a fall of an institutionalized adult older, the meanings nurses’ associated with preventing a fall, as well as the nurses’ changes in practice based on these experiences. Forty two nurses completed demographic questions in the Survey. Thirty participants answered both demographic and open-ended questions. Participants were primarily female, 51-60 years of age, white, non-Hispanic and held a Bachelor Degree and certification in rehabilitation nursing. Most participants practiced in Pennsylvania in acute hospital rehabilitation units caring for patients who had suffered a stroke. The majority of these nurses worked in a rehabilitation setting for one to nine years.

Participants provided brief descriptions of falls and fall prevention. Descriptions of the falls included that they were unwitnessed, the staff did not respond quick enough, the patient was lowered to the floor, the patient was trying to get up without assistance and equipment or the patient's belongings were not within reach. Participants also gave brief descriptions of the fall prevention strategy used, including using fall assistance programs, fall risk equipment, adequate staff for transfers, as well as being aware of fall risk. Themes discovered related to the meaning of a fall include negative feelings (incongruence), such as feeling horrible, guilty, failure; and positive feelings (congruence), such as being thankful for lack of injury or having no personal responsibility for the fall. Meanings related to preventing a fall include positive feelings
(congruence) of feeling like a super hero, did well, lucky and relieved. Practice change themes related to falls include: seeking more education, increasing interventions for safety, and seeking interdisciplinary support. Practice change themes with fall prevention include: utilizing fall assistance programs, seeking adequate staff for transfers, and being aware of fall risks. With these findings, the research questions are answered and linked to supporting literature in the next chapter.
Chapter 5

Discussion

The findings of the data analysis were delineated in-depth in the previous chapter. In this chapter, a summary of the findings of this study to describe the meanings to the rehabilitation nurse when an institutionalized older person falls or a fall is prevented and if practice change occurs as a result of these experiences is examined. Findings from this study will be compared to those in the literature. Findings will also be discussed in relationship to Friedemann’s (1995) framework of systematic organization. Conclusions and limitations of the study are presented. Implications for nursing and recommendations for further research conclude this chapter.

Findings

Findings for each research question will be discussed individually and related to the literature and theoretical framework.

Research question one. The first research question was: What does it mean to rehabilitation registered nurses when and institutionalized older person falls?

Nurses responded to the question asking what it meant to them when an older person in their care fell. Nurses described both negative and positive feelings regarding these events. Themes which emerged from their responses included: Feeling Horrible (incongruence), Feeling Guilty (incongruence), Thinking I Failed to Protect the Patient (incongruence), Feeling Thankful There was No Harm (congruence), and Thinking It Was Not My Fault, But a System Problem (congruence).
**Negative feelings: incongruence.** The negative feelings shared by these nurses are similar to feelings shared by nurses in the descriptive study published by Turkoski et al. (1997). The 14 rehabilitation registered nurses who participated in the Turkoski et al. (1997) study reported feelings of guilt and self-blame for not anticipating patient needs, recognizing clues, or not effectively communicating with patients in regards to falling. Nurses attributed the responsibility for patient falls to nursing behaviors which include knowledge, experience, and other unidentified factors (Turkoski et al., 1997). Nurses participating in the study by Rush et al. (2008) reported considerable stress and use of a wide range of coping strategies when the nurse perceived the patient as unsafe and the patient fell.

**Positive Feelings: Congruence.** A positive theme which emerged was Feeling Thankful There was No Harm. One nurse shared both negative and positive feelings when she shared feeling upset and concerned but grateful there was no injury when her patient experienced a fall. Another nurse shared that she was grateful that the patient was not injured and the IV site was still intact. These positive feelings were not mentioned in the published literature reviewed.

Nurses who did not take personal responsibility for the fall are included in the theme Thinking It Was Not My Fault, But a System Problem. Responses included in this theme include: “the patient and his wife were educated several times regarding falls… I felt as though they disregarded our teaching moments.” Nurses also attributed the falls to insufficient staffing and the gap between shifts which was thought to contribute to falls because nurses were not available to address symptoms which contributed to falls. Nurses expressed that falls occurred due to cognitive issues which prevented the patient
from understanding why they could not get up without assistance. Nurses, who participated in the study by Struksnes et al. (2011), also reported the perception that falls were caused by physical and cognitive conditions of the patient. Nurses and student nurses in this study seldom felt stress, unease or guilt related to being present in fall situations (Struksnes et al., 2011). Struksnes and colleagues (2011) did report that nurses tended to feel stress related to falls to a higher degree than student nurses; although this was not statistically significant.

**Research question two.** The second research question was: What does it mean to these nurses when they prevent a fall?

Nurses responded to the question inviting them to share their thoughts or feelings related to preventing an institutionalized older person from falling. Themes which emerged from these responses included: Feeling Like a Super Hero, Thinking I Did My Job, and Feeling Lucky and Relieved. The theme Feeling Like a Super Hero emerged from the meaning of preventing a fall described as a heroic deed. Others shared a high sense of accomplishment and pride as a member of a team whose patient completed the rehab program without a fall. The theme Thinking I Did My Job emerged as some nurses made statements indicating that preventing falls was a routine part of their job. Rush et al. (2008) reported a major theme of “knowing the patient was safe” which was accomplished through risk assessment, direct and indirect communication, and monitoring. Finally, the theme of Feeling Lucky and Relieved included nurses who were relieved to prevent physical and/or emotional trauma that a fall may cause. When the nurses knew the patient was safe or free from harm, they did not experience stress (Rush
et al., 2008). In the current study, nurses who prevented a fall and potential harm for the institutionalized older person reported positive feelings.

**Research question three.** The third research question was: Did the experience of a person falling change these nurses’ practice?

Some nurses denied a change to their practice related to the patient fall because their current fall prevention protocol was thought to be adequate. Those nurse respondents who indicated a practice change formed the following themes: Providing More Education, Increasing Interventions for Safety, and Seeking Interdisciplinary Support. Providing More Education was illustrated by nurse comments about providing education and expectations to staff about response time to alarms, providing consistent patient and family education, and communication of transfer status to families. The theme of Increasing Interventions for Safety includes improved awareness of who is at risk for fall, vigilant initiation of safety alarms, and hourly rounding. Seeking Interdisciplinary Support emerged as nurses described interdisciplinary conversations about patient rights versus patient safety and improved interdisciplinary handoff communication and fall equipment use that took place as a result of a patient fall.

The results reported by Stenberg and Wann-Hansson (2011) are similar to reports from nurses in the current study who state that a fall initiated change in their practice and change within their interdisciplinary team. Stenberg and Wann-Hansson (2011) reported that the fall experience led to greater motivation to use clinical practice guidelines for fall prevention. Results from the Stenberg and Wann-Hansson (2011) study, reflected that attitudes and compliance with clinical practice guidelines for fall prevention seem to be
mainly dependent on a previous fall event with negative consequences. Experiencing negative consequences allowed participants to see the positive outcomes associated with instituting the clinical practice guidelines (Stenberg & Wann-Hansson, 2011). Social factors such as community obligations (laws and rules), organizational resources (clear leadership, team competence, physical environment), and individual resources (ethics, motivation, knowledge) were found to be important for implementation and compliance with clinical practice guidelines (Stenberg & Wann-Hansson, 2011).

Some nurses in the current study described reflection on the fall, individually or with a team, as a means of examining the events of a fall and determining measures to prevent future falls. Rowles and Russo (2009) state that reflection promotes learning from experience, helps the learner transfer facts from one context to another, helps link the ideal nursing practice with the reality of nursing practice and promotes critical thinking.

**Research question four.** The fourth research question was: Did the experience of preventing a fall change these nurses’ practice?

Nurses responded to the question asking if the experience of preventing a fall changed their practice. These practice changes emerged into the themes of Utilizing Fall Assistance Programs and Equipment, Seeking Adequate Staff for Transfers, and Being Aware of Fall Risks. Rush et al. (2008) describe the ongoing use of strategies of assessment, monitoring, and communicating in order to keep patients free from harm, which are similar to the practice change themes that emerged from the current study. As conditions vary, the nurse used these ongoing strategies to confirm that the patient is safe
(Rush et al., 2008). Turkoski et al. (1997) discovered that nurses recognized subtle clues then initiated proactive fall prevention strategies. Ferrari, Harrison and Lewis (2012), Forrest et al. (2012), and Kwan et al. (2012) suggest the need for a more rehabilitation-specific fall risk assessment to assist in fall prevention. No studies were found in the literature directly relating the experience of preventing a fall to practice change.

Dempsey (2009) concluded that practice change (increase in fall prevention activities) resulted from participation in work-related decision making rather than change in attitudes.

Some nurses did not think preventing a fall caused a change in their practice. These nurses explained that they continue to provide the same level of quality care after preventing a fall and that the experience reinforced their practice.

**Nursing theoretical framework and the findings.** Friedemann’s (1995, 2013) framework of systematic organization (Figure 1) is the nursing theoretical framework for this study. A schematic (Figure 2) depicts the nurse’s balance in relationship to patient falls. Friedemann’s framework is applied to this study with the assumption that the nurse, also strives to achieve balance in his or her own life/nursing practice.
Figure 2. Illustration of the nurse’s sense of balance or well-being related to the falls using Friedemann’s (1995) framework of systemic organization.

Important to this framework is the understanding that there is a basic order in the universe and that all things are connected in a congruent pattern and rhythm (Friedemann, 1995). Congruence is the state of those things being attuned and energy flowing freely within and between them (Friedemann, 1995). Incongruence occurs when there is a block in that energy (Friedemann, 1995). Friedemann (1995, 2013) describes four targets: control, stability, growth, and spirituality, which adjust in a dynamic equilibrium to achieve balance or congruence. To achieve or maintain balance among the targets, the person performs behaviors within process dimensions (Friedemann, 1995, 2013). The process dimensions include system maintenance, system change, coherence, and individuation (Friedemann, 1995, 2013).
According to Friedemann (1995), loss of control, a crisis, or perceived failure creates anxiety or incongruence. Nurses used terms that emerged as themes in this study of Feeling Horrible, Feeling Guilty, or Thinking I Failed to Protect the Patient to describe their negative feelings or incongruence following a fall. For these nurses, the fall of the institutionalized older person in their care disturbed their sense of balance (congruence) (Friedemann, 1995). These nurses described practice change themes of Providing More Education, Increasing Interventions for Safety, and Seeking Interdisciplinary Support; initiated with the hope that balance and congruence could be restored.

Nurses who described positive feelings included in the themes of Feeling Thankful There was No Harm and Thinking It was Not My Fault when an institutionalized older person fell remained in congruence (Friedemann, 1995). Nurses who prevented a fall shared positive feelings which are included in the themes Feeling Like a Super Hero, Thinking I Did My Job, and Feeling Lucky and Relieved, illustrating congruence since anxiety is not present (Friedemann, 1995). Through their nursing interventions, the patient did not fall; so the nurse remained in balance.

Practice change themes suggested by nurses who experienced a fall or prevented a fall are the behaviors of the process dimensions: system maintenance, coherence, individuation, and system change (Friedemann, 1995, 2013). System maintenance behaviors include tasks to insure safety such as Increasing Interventions for Safety, Utilizing Fall Assistance Programs and Equipment, and Seeking Adequate Staff for Transfers (Friedemann, 1995, 2013). A coherence behavior mentioned by participants is Seeking Interdisciplinary Support (Friedemann, 1995, 2013). Behaviors associated with individuation include personal development such as Providing More Education, and
Being Aware of Fall Risks (Friedemann, 1995, 2013). It is unknown if participants demonstrated system change as there is no information about the length of time participants have made changes to their practice (Friedemann, 1995, 2013). Nurses who denied a practice change remained in congruence as their current practice was reinforced. Nurses initiated practice changes after the experience of a fall to help restore balance/congruence as was depicted within Figure 2.

Conclusions

Through describing the rehabilitation registered nurse’s experience when an institutionalized older person falls or a fall was prevented, more was learned about the impact of these events on the nurse. Nurses shared negative feelings associated with the experience of a fall as was documented by Rush et al. (2009) and Turkoski et al. (1997). Nurses shared more positive feelings regarding falls when the older person did not experience an injury. Nurses also had positive feelings when the nurse determined that the fall occurred because of someone or something else; rather than his or her own practice, similar to results published by Struksnes et al. (2011). Nurses who prevented the fall of an institutionalized older person shared positive feelings about the experience.

Some rehabilitation nurses, who experienced a fall or prevented a fall, shared that the experience caused a change in their practice. Examples of practice change themes initiated after the experience of a fall include seeking/providing more education, increasing interventions for safety, and seeking interdisciplinary support. Practice change themes initiated after a fall is prevented include utilizing fall assistance programs and equipment, seeking adequate staff for transfers, and being aware of fall risks. Some
nurses stated that the experience of a fall or preventing a fall did not cause a change in practice because they already employ robust fall prevention programs within their facilities. Preventing a fall validated and reinforced their current practice.

Rehabilitation nurses shared a variety of negative thoughts and feelings associated with falls which can help educate administrators and colleagues about the impact of falls on the individual nurse. Clancy (2012) shared that the potential exists for lasting damage to the clinician when adverse events occur that harm patients. Administrators and colleagues should be aware of the impact of these experiences immediately after a fall and the potential lasting impact so proper support and education processes can be developed. Fall investigation processes should be non-threatening to allow the nurse to openly participate without guilt and shame. In addition, some nurses attributed falls to system related issues such as change of shift, staffing, and restraint policies. Open dialog between nurses involved with falls and administrators may help generate solutions to these issues.

Limitations

Several limitations were noted associated with this study. One limitation for this study is the small return rate of 7%; although a sample size of 30 is more than adequate for a qualitative study, it does not allow for generalization to the larger rehabilitation nurse population. Nulty (2008) found that online surveys produce a response rate of 33% compared to paper based survey response rates of 56%. Several potential explanations for the small return rate were considered by investigators. One potential explanation is that the Survey was mailed immediately after Christmas and New Year holidays which
may have found nurses too busy to complete it. Participants had to type the web address into their browser which may have been cumbersome for some nurses. The Survey was only accessible online which may have hindered some participants. Investigators only had access to potential participants through their mailing address; email addresses were not available. A reminder postcard was not sent as a follow-up. Nulty (2008) suggests the following methods for boosting only survey responses: send repeat email reminders, offer incentives through a lottery, and keep questionnaires brief.

Another limitation is the web based survey design for qualitative research. Several potential factors exist that may reduce the depth of participant information shared. Since the Survey responses were identified by a computer generated code, investigators were unable to have direct dialog with participants to clarify or allow participants to expound on responses. Participants were unable to return to their Survey later to add thoughts. Finally, participants had to type responses which may have limited the amount of information shared.

**Implications**

Despite these constraints the original purpose of this study was met: to describe rehabilitation registered nurses’ meanings associated with a fall of an institutionalized adult older, the meanings nurses’ associated with preventing a fall, as well as the nurses’ changes in practice based on these experiences. One important implication is recognizing the feelings of horror, failure, and guilt that nurses experience after a patient falls. For nurses and administrators, awareness of these feelings identifies the potential need for allowance of time and resources that may help nurses deal with their thoughts and
feelings after the fall of an institutionalized older person. It is important that fall investigations are non-threatening to improve the nurse’s ability to participate openly and learn new strategies from the experience. Burhans, Chastain, and George (2012) describe the traditional model of professional regulation when events occur to be focused on what was done wrong, who is to blame, not the cause of the event. The first response of organizations and regulatory agencies when harm occurs is blame, shame, discipline, and punishment (Burhans et al., 2012). Consequently, nurses underreport incidences (Burhans et al., 2012). Marx (2001) introduced the concept of Just Culture which is an approach that focuses on levels of risk, behavioral choices and system design (Burhans et al., 2012). Using this approach, errors and unanticipated adverse outcomes can be learning opportunities rather than grounds for punishment (Burhans et al., 2012).

For the individual nurse, the positive feelings associated with preventing a fall may validate and/or reinforce the nurse’s practice or new fall prevention strategies. The positive feelings may also serve as a motivator to continue or try new fall prevention strategies. Positive feelings associated with a fall (Feeling Thankful There was No Harm and Thinking it was Not My Fault, but a System Problem) may allow the nurse to reflect on events of the fall more objectively since the negative feelings of guilt, horror and failure are not present.

Results identifying the negative feeling that nurses experience when an institutionalized older person falls have implications for nursing education. Being aware of these feelings may be helpful when developing education about fall prevention for new graduate nurses, nurses new to the rehabilitation setting, or for nurses who have not experienced a fall during their practice. Educators can discuss scenarios including the
events of the fall, nurse’s thoughts and feelings, and outcomes for patients, families, nursing staff and the facility. The students can gain a better understanding of the impact of falls through real-life examples. Educators can also share the positive impacts of preventing falls with nurses as a motivator for employing new fall prevention strategies, such as fall risk assessment and heightened awareness, hourly rounding, scheduled toileting, and use of alarms for institutionalized older persons.

Awareness that fall and fall prevention experiences can encourage practice change is important to nurse educators and administrators. Although a fall has the potential for many negative consequences, one possible potential outcome is practice change. Nurses who participated in this study shared that the experience changed their practice by providing more education, increasing interventions for safety, seeking interdisciplinary support, utilizing fall assistance programs and equipment, seeking adequate staff for transfers and being aware of fall risks. Nurses whose practice change involved more education included responses such as individually reviewing and evaluating the fall event to identify additional interventions, educating staff to respond more quickly to alarms, and sharing fall prevention strategies with newly hired staff. Increased interventions for safety include routine rounding, insuring that call lights are in reach, and routine toileting. Seeking interdisciplinary support was described as conversations among the interdisciplinary team members about patient safety and rights, performing post-fall huddles, and performing hand-offs as patients returned to the nursing department after therapy. Utilizing fall assistance programs and equipment examples include performing fall assessments, utilizing alarms, selecting appropriate beds, and utilizing safety interventions for all patients. Seeking adequate staff for transfers included the nurse’s
decision to ask for help with transfers due to the fall risk assessment, fatigue of the older person, or variability of the older person’s performance with transfers. Finally, being aware of fall risks was described by the nurse being more aware of fall risk, the nurse prioritizing follow-up assessments with those at risk for falls, and observing for trip items during the initial assessment.

For interdisciplinary teams, results of this study validate the need for interdisciplinary dialog about fall prevention strategies individualized to the older person. The team discussion should include information about the older person’s physical and cognitive ability, as well as functional goals. The individual needs and goals of the older person may challenge the team to rethink strategies for maintaining independence and safety. A nurse, who participated in this study, shared the challenges faced at her facility after a resident fall. The resident was angry after fall prevention interventions were increased after the fall resulting in his perceived loss of autonomy. The importance of interdisciplinary handoff communication was described by a nurse who makes it a practice to check alarms when the patient returns to the unit and to identify patients who must be handed off from therapist to nurse after therapy.

**Recommendations for Further Research**

This study needs to be replicated to include a variety of ethnic groups, in other states and/or countries, and in non-rehabilitation settings with increased number of participants to enhance generalizability. The online Survey method for data collection needs to be revised to include a non-holiday timeframe and follow-up reminders for participation. Additionally, email delivery of the Invitation to Participate would allow
those interested in participating to click a link to access the Survey, making access less cumbersome.

One area for further research is determining what specific strategies or processes the nurses used to move from the negative feelings after a fall to instituting practice change. Research has been done by Scott et al. (2009) and Scott (2011) regarding stages of recovery encountered by clinicians who were involved in events that caused harm to patients. Scott (2011) has identified six stages of clinician recovery: chaos and accident response, intrusive reflections, restoring personal integrity, enduring the inquisition, obtaining emotional first aid and moving on. Moving on includes the three potential outcomes of dropping out, surviving, and thriving (Scott, 2011). More information is needed to describe how nurses move through these stages and how to minimize those whose outcome is to leave nursing. Additional information is needed to describe what is meant by surviving and thriving for nurses who have experienced the fall of an institutionalized older adult.

Summary

The findings of the study, how these findings relate to selected literature, and how the findings relate to Friedemann’s framework of systemic organization (1995, 2013) were discussed in this final chapter. Nurses shared negative feelings associated with falls as did nurses in studies by Rush et al. (2009) and Turkoski et al. (1997). Nurses shared positive feelings associated with a fall when the patient was not injured; this has not been mentioned by other authors (Rush et al., 2009; Turkoski et al., 1997; Struksnes et al., 2011). Nurses also shared positive feelings when the nurse determined the cause of the
fall to be related to a system issue, similar to results by Struksnes et al. (2011). Some nurses denied practice change associated with fall or prevention of fall when they assessed their current practice as adequate. Other nurses who experienced a fall stated that the experience caused a practice change as was reported by Stenberg and Wann-Hansson, (2011). Limitations of this study were presented. Implications for nursing education and administration were shared along with recommendations for future research.
References


Marx, D. (2001). *Patient safety and the “just culture”: A primer for health care executives*. Prepared for Columbia University under a grant provided by the


Appendix A

Survey

This survey about your experience with falls and/or the prevention of falls includes 9 demographic questions (you will make a selection from drop-down menus) and 7 open-ended questions (your responses are typed into a text box). You must complete the survey in one sitting.

You will not be able to save the survey and come back to complete it later. It is estimated that it will take about 20 minutes to complete.

Please answer the following statements by choosing the correct response.
I have a _______ (please select your highest degree in nursing):

If Other Degree, please specify:

I have __________ certification as a registered nurse:

I have been a rehabilitation nurse for ______ years.

My age is between ______ years.

I am:

My ethnic background is:

I practice in the State of ____________:
I work mainly with rehabilitation clients who are institutionalized in a(n) _________________.

I work mainly with clients who have/had a _________________

If Other, please specify:

Has an older person (at least 65 years of age) at your job that you cared for had a fall or have you prevented a fall in the last year?

Survey Powered By Qualtrics

Office of Institutional Research

Please type your answers to the following questions in the spaces below:

Think about an older person (at least 65 years of age) you have cared for at your job in the past year who fell:
Please give a brief description of what happened: (You are limited to 100 words or 700 characters.)

Please share what it meant to you (how you thought or felt) when the person fell: (You are limited to 100 words or 700 characters.)

Did this experience change your practice? Please explain. (You are limited to 100 words or 700 characters.)

Think of a time that you prevented an older person from falling at your job.

Please briefly describe the situation and share what you did to prevent the fall: (You are limited to 100 words or 700 characters.)

Please share what it meant to you (how you thought or felt) when you prevented the
person from falling:  (You are limited to 100 words or 700 characters.)

Did this experience change your practice?  Please explain.  (You are limited to 100 words or 700 characters.)

Additional comments:  (You are limited to 100 words or 700 characters.)

When you are finished, please click on the >> button to submit your answers on this survey.

Survey Powered By Qualtrics
Appendix B

RNF Grant Letter

August 1, 2012

James Trempe, PhD
Professor and Vice President for Research
University of Toledo
2801 West Bancroft
Toledo, OH 43606

Dear Dr. Trempe,
On behalf of the Rehabilitation Nursing Foundation, we are delighted to provide the New Investigator Research Grant to fund Amy Bok’s project, “Rehabilitation Nurses’ Experiences When an Institutionalized Older Person Falls”.

Enclosed are two copies of an agreement detailing the payment and reporting requirements for the Rehabilitation Nursing Foundation’s research grant. Please sign both copies and return to my attention by August 24, 2012. We will mail you a copy signed by the RNF Executive Director for your records.

Our funding agreement requires that Amy Bok complete the project within two years of receiving the grant. Amy is also required to submit a report every six months to the Foundation until completion of the study. The first report is due June 31, 2013 and a final report on the project is due by February 28, 2015. The six month reports may be sent to my attention at the RNF office.

Again, we are delighted to provide funding for Amy’s research project. We look forward to seeing the results of the study.

Sincerely,

Susan Floutsakos
Manager

Enclosure
Amy Bok, BSN RN CRRN
Appendix C

University of Toledo IRB Approval Letter

TO: Linda Pierce, PhD, RN, CNS, CRNP, FAHA, FAAN  
    UT College of Nursing

FROM: Roland Skeel, M.D., Chair  
      Deepak Malhotra, M.D., Vice Chair  
      Gregory Siegel, R.Ph., J.D., Chair Designee  
      UT Biomedical Institutional Review Board

SIGNED: [Signature]  
DATE 11/22/12

SUBJECT: IRB # 108075  
Protocol Title: When an Institutionalized Older Person Falls or a Fall is Prevented: What Does It Mean to Rehabilitation Nurses?

The above project was reviewed and approved by the Chair and Chair Designee of the University of Toledo Institutional Review Board as an expedited review (category #7). The requirement to obtain a signed consent/authorization for use and disclosure of protected health information form has been waived as this research is determined to be minimal risk and a signed consent/authorization document would be the only record linking the subject to the data. It was determined that this waiver for signed consent/authorization for use and disclosure of protected health information form will not adversely affect the rights or welfare of the participants. This research is approved for a period of up to one year from the date of this review and approval. The full board will review it at its meeting on 11/19/2012.

Items Available for Review:
- IRB Application Requesting Initial Expedited Review of Research
- Protocol (assigned version date 11/19/2012)
- Survey (assigned version date 11/19/2012)
- Survey Software Testing Results (version date 10/26/2012)
- Recruitment Letter (version date 11/02/2012)

This research is approved until the expiration date listed below, unless the IRB notifies you otherwise.

You are approved to enroll up to 700 participants.

APPROVAL DATE: 11/19/2012  
EXPIRATION DATE: 11/18/2013

Please read the following attachment detailing Principal Investigator responsibilities.
Appendix D

Letter of Invitation to Participate

January 2, 2013

Dear Rehabilitation Registered Nurse:

My name is Amy Bok. I am a rehabilitation nurse and member of the Association of Rehabilitation Nurses (ARN). I am also a graduate student at The University of Toledo working with Drs. Linda Pierce, Victoria Steiner, and Cheryl Gies. My thesis research is focused on learning more about older persons and falls.

You are one of 700 registered nurses (who are members of ARN from Florida, West Virginia, Maine, and Pennsylvania) being asked to participate in a one-time online Survey. Part 1 of the Survey asks for information about yourself and Part 2 asks what it meant to you when an institutionalized older person in your care fell and/or when you prevented a fall and if you changed your practice after these experiences.

Your participation in completing this Survey is voluntary. If you decide to participate, please open your computer’s web browser (e.g. Internet Explorer, Firefox), type the URL (text below) into the address or location bar at the top, left corner of the page (not into the search bar), and press Enter. You will then be asked to enter the password below.

URL: http://tinyurl.com/cz63reuk
Password: falls

Choose the appropriate responses for your demographic information and type in your responses to the open-ended Survey questions. Your responses to the open-ended Survey questions are limited to 700 characters or about 100 words. If a question makes you feel emotionally uncomfortable, leave it blank; you may want to talk to your supervisor or peers about your feelings. The Survey must be completed at one time as you will not be able to return to it to add information. You should allow at least 20 minutes for completion of the Survey. Please do not share the Survey access with others and only take the Survey once. If you have problems accessing the Survey, please call me at 419-296-3587 or email me: Amy.Bok@rockets.utoledo.edu

Completing the Survey implies your consent to participate in this study. The results of this study may be shared with a professional journal and its readers. You will not be identified by name when results are reported. All information that is obtained will remain confidential and will be stored on a secure web server. You may contact Dr. Pierce at l.pierce@utoledo.edu if you wish to receive a summary of the study results.

Thank you for your assistance in helping me examine rehabilitation nurses’ experiences of when an institutionalized older person falls and/or when a fall is prevented. You may contact my Thesis Committee chair for further questions or information about this study. Please complete the survey within 1 week.

Best regards,

Amy J. Bok, BSN, RN, CRRN; Graduate Nursing Student; Amy.Bok@rockets.utoledo.edu

Linda Pierce, PhD, RN, CRRN, FAAN
Professor of Nursing
Chair, Thesis Committee
lpierce@utoledo.edu
419.383.3852

Victoria Steiner, PhD
Associate Professor of Medicine
Member, Thesis Committee
Victoria.steiner@utoledo.edu
419.383.5647

Cheryl Gies, DNP, RN, CNP
Associate Professor of Nursing
Member, Thesis Committee
Cheryl.gies@utoledo.edu
419.383.3862
Appendix E

Evaluation Tool

Questionnaire for Evaluation of Survey

Reviewer’s Name: ____________________________

Directions: I am asking you as an expert in the field of rehabilitation nursing to carefully read the attached cover letter and complete the Survey online that is mentioned in this letter.

Please keep track of how long it takes you to complete the Survey. Submit your responses to the online Survey and then complete the following questionnaire on the clarity and usability of the online Survey. Mark your answer to each question below and add comments as appropriate. Please return this completed page within 5 working days by attachment to my email at: amy.bok@rockets.utoledo.edu

<table>
<thead>
<tr>
<th>Evaluation of Survey Design:</th>
<th>Very Poor</th>
<th>Poor</th>
<th>Neutral</th>
<th>Good</th>
<th>Very Good</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Directions were clearly stated in the cover letter.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. The website for the survey was easily accessed.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Directions were clearly stated in the Survey.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. The space provided on the Survey was adequate for response.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Questions within the Survey were clearly written.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

6. If you responded with a #1 or #2 to any of the questions above, please explain:

__________________________________________________________________________________

__________________________________________________________________________________

7. Specifically, would you change any wording to improve the clarity of the cover letter and/or of the questions on the Survey?

Cover letter: __________________________

__________________________________________________________________________________

Survey: __________________________

__________________________________________________________________________________

8. How many minutes did the online Survey take to complete? __________________________

Thank you for taking the time to evaluate this cover letter and Survey.