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# Nursing Pain Management in an Emergency Room with Hallway Overflow

Zaida Ruiz  
*Walden University*

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Walden University

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Zaida Ruiz

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Walden University  
2018

Abstract

Nursing Pain Management in an Emergency Room with Hallway Overflow

by

Zaida Ruiz

MS, Universidad Metropolitana de Bayamón, 2012

BS, Universidad Sagrado Corazon, 2014

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

May 2018

## Abstract

Overcrowded emergency rooms (ERs) decrease the flow of nursing care creating a delay in nurse-administered pain management leaving patients in pain. The project-focused question asked if ER nurses felt that overcrowding in the ER led to inadequate pain management and if a clinical practice guideline (CPG) could be developed to promote effective pain management in the setting. Callista Roy's theory of human adaptation was used to guide the project. To prepare for CPG development, data from a simple random selection of 10 nurses who had worked in the ER for a minimum of 6 months was obtained from the practice site. The 12-item questionnaire was validated by a panel of experts from the site prior to use. Data were analyzed for frequencies and a *t*-test was used to determine whether overcrowding significantly influenced pain management. Results indicated that overcrowding, overflow to hallways, and work demands on nurses in the ER significantly ( $p < .01$ ) affected timely pain management for patients. In response to the staff feedback and using the same expert panel for review, a clinical practice guideline was developed and presented to the site administration for implementation. In addition to implementation of the CPG, recommendations from the panel included having a committee review the overflow situation and improve patient-to-nurse ratios in the ER. While the clinical practice guideline was not implemented during this project timeline, the site administration accepted the document and planned for future implementation. Positive social change will result as pain management is addressed in a timely manner and patients are satisfied with care.

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## Dedication

I dedicate this project to the one that helped me stayed up late while doing my homework and kept me in health during this doctoral journey. The one that gave me ideas when I had to write so much. The one who provided me with the strength to work and study at the same time (it was not easy, but he held my hand and said, “come on, one more step I will do it with you”). The one who helped me understand all the chapters in the books I had to read. The one who gave me such excellent professors, each and one of them helped shape the doctor I am today. The one who put me at Walden University. I dedicate this project to GOD.

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## Table of Contents

|   |    |
|---|----|
| List of Tables .....                                | iv |
| List of Figures .....                               | v  |
| Section 1: Nature of the Project .....              | 1  |
| Introduction.....                                   | 1  |
| Problem Statement .....                             | 1  |
| Purpose.....  | 4  |
| Definitions.....                                    | 5  |
| Nature of the Doctoral Project .....                | 6  |
| Significance.....                                   | 7  |
| Summary .....                                       | 8  |
| Section 2: Background and Context .....             | 9  |
| Introduction.....                                   | 9  |
| Concepts, Models, and Theories.....                 | 9  |
| Relevance to Nursing Practice.....                  | 11 |
| Specific Literature on Pain Management .....        | 12 |
| Types of Pain .....                                 | 14 |
| Overcrowding in Hospital Emergency Rooms .....      | 15 |
| Overcrowding.....                                   | 16 |
| Role of the DNP Student.....                        | 20 |
| Summary .....                                       | 20 |
| Section 3: Collection and Analysis of Evidence..... | 22 |

|  |    |
|--|----|
| Introduction.....                            | 22 |
| Practice-focused questions.....              | 22 |
| Sources of evidence .....                    | 23 |
| Analysis and Synthesis .....                 | 24 |
| Data analysis.....                           | 25 |
| Project Evaluation Plan .....                | 25 |
| Human Rights Protection.....                 | 26 |
| Precautions to minimize risks.....           | 27 |
| Summary.....                                 | 27 |
| Section 4: Findings and Recommendations..... | 28 |
| Introduction.....                            | 28 |
| Findings and Implications.....               | 28 |
| Demographics Data .....                      | 29 |
| Analysis of the reagents.....                | 33 |
| Project Question .....                       | 43 |
| Implications .....                           | 48 |
| Recommendations.....                         | 54 |
| Strength and Limitations.....                | 57 |
| Section 5: Dissemination Plan .....          | 58 |
| Introduction.....                            | 58 |
| Social Change Implications .....             | 58 |
| Analysis of Self.....                        | 59 |

|   |    |
|---|----|
| References.....   | 61 |
| Appendix A: Analysis of Reagents.....   | 71 |
| Appendix B: Questionnaire.....  | 72 |
| Appendix C: Certificate of Completion of Protecting Human Research Participants<br>Training.....                  | 74 |
| Appendix D: Guidelines for Nursing Pain Management in a Puerto Rican Emergency<br>Room with Hallway Overflow..... | 75 |
| Introduction.....   | 75 |
| Guidelines for Pain Management.....   | 75 |
| I.    Organizational Policy Changes.....  | 75 |
| A.  Staffing Changes.....   | 75 |
| B.  Time Management Scheduling.....   | 76 |
| C.  Patient Management.....   | 77 |
| D.  Overcrowding Management.....  | 78 |
| E.  Interprofessional Relationships.....  | 79 |
| II.   Stakeholder Policy Changes.....   | 80 |
| A.  Political and Organizational Changes.....   | 80 |

## List of Tables

|   |    |
|---|----|
| Table 1. Project Criteria.....  | 23 |
| Table 2. Analysis of Demographic Data.....  | 29 |
| Table 3. Analysis of Correlation Between Pain Management in ER with Hallway<br>Overflow and Reagents..... | 44 |
| Table 4. Analysis of Differences Between Variables in the Emergency Room.....                             | 47 |

## List of Figures

|   |    |
|---|----|
| <i>Figure 1.</i> Fishbone diagram showing causes and effect of hallway overflow in an emergency room..... | 7  |
| <i>Figure 2.</i> Gender distribution in the ER. ....  | 31 |
| <i>Figure 3.</i> Age distribution in the ER. ....   | 31 |
| <i>Figure 4.</i> Civil status distribution in the ER. ....  | 32 |
| <i>Figure 5.</i> Time working in the ER distribution .....  | 33 |
| <i>Figure 6.</i> Age Distribution in the ER.....  | 33 |
| <i>Figure 7.</i> Distribution of the sample according to Premise 1 .....                                  | 34 |
| <i>Figure 8.</i> Distribution of the sample according to the premise 2 . ....                             | 34 |
| <i>Figure 9.</i> Distribution of the sample according to the premise 3 . ....                             | 35 |
| <i>Figure 10.</i> Distribution of the sample according to the premise 4. ....                             | 36 |
| <i>Figure 11.</i> Distribution of the sample according to premise 5 .....                                 | 37 |
| <i>Figure 12.</i> Distribution of the sample according to premise 6 . ....                                | 38 |
| <i>Figure 13.</i> Distribution of the sample according to premise 7 . ....                                | 39 |
| <i>Figure 14.</i> Distribution of the sample according to premise 8 . ....                                | 40 |
| <i>Figure 15.</i> Distribution of the sample according to premise 9 .....                                 | 41 |
| <i>Figure 16.</i> Distribution of the sample according to premise 10. ....                                | 41 |
| <i>Figure 17.</i> Distribution of the sample according to premise 11. ....                                | 42 |
| <i>Figure 18.</i> Distribution of the sample according to premise 12 . ....                               | 43 |

## Section 1: Nature of the Project

### **Introduction**

The overcrowding phenomenon in Emergency Rooms (ER) in both Puerto Rico and the United States, stems from factors such as the replacing of primary care for ER care. Many people who live at or below the poverty level do not have medical access because of lack of health care plans. Consequently, they turn to ER for care, limiting the bed space available to treat high volume of patients (Grumbach, Keane, & Bindman, 1993). The migration of health care professionals out of the island of Puerto Rico is another factor that has worsened the overcrowding situation (Patron, 2017). In Puerto Rico, as well as in the contiguous United States, emergency departments receive everyone in need of medical care regardless of background, race, religion, or financial status (Zibulewsky, 2001). Patients without health insurance use the ER as their primary care (Grumbach, Keane & Bindman, 1993). Consequently, a minuscule number of nurses in Puerto Rico's ERs work under severe pressure to deliver care to a high number of patients. The small number of Emergency Department staff is consistently faced with accelerating the flow of work making it challenging and difficult to meet the health care demands resulting from the high inflow of patients.

### **Problem Statement**

The clinical practice problem identified for this project was pain management in a full emergency room with hallway overflow for more than 2 weeks. The full ER resulted in disproportionate pain management care as observed at the practicum site. The hallway overflow patients waited much longer for treatments than patients in regular beds. One

reason was the nurse-patient ratio. Most emergency rooms in Puerto Rico have two nurses per shift (personal communication, September 11, 2017). According to experts, the ERs of the United States, as well as Puerto Rico, had more than 136 million patients in 2011 as compared to 129.8 million in 2010 and had increased to 140 million ER visits by 2014 (CDC, 2014). The increase in ER visits shows that nurses continue to work in overcrowded conditions. Per Kelly (2011), a change in system structure is needed to address the problem of overcrowding in ER rooms.

ERs require highly trained professionals, but the multiple health events and overflow occurring in the emergency departments of both the United States and Puerto Rico has affected the performance and working capacity of nurses; and, patients have directly or indirectly been affected. Researchers at the Johns Hopkins University Schools of Nursing (JHUSON) and the Johns Hopkins Hospital (JHH) developed a model to address the overcrowding phenomenon that includes the following evidence-based practice (EBP) goals:

1. To assure the highest quality of care,
2. To promote patient satisfaction and
3. To make the job easier (Newhouse, Dearholt, Poe, Pugh, & White, 2005).

Although nurses at the practicum site have this model as a problem-solving approach, implementing it becomes difficult because of the rush and intensity brought by an overcrowded ER. Several authors agree that nursing professionals are profoundly affected by the difficulty of their work with stress-related issues that make it difficult for them to perform their duties fully (Gholamzadeh, Sharif, & Dehgham, 2010; Gil-Monte,

2002). Also, in an overcrowded environment such as that found in the emergency department with hallway overflow, it is difficult to manage all the needs of the patients as there are typically far more patients than nurses to attend them (Gholamzadeh, Sharif, & Rad, 2011; Gil-Monte, 2002).

Pain management exacts a high emotional demand on nurses that, when combined with the demanding nature of their work, makes it difficult to achieve psychological well-being (Hernández, Cerezo, & López, 2007). Furthermore, amid constant direct contact with the suffering and death of patients, nurses may develop problems with their co-workers (Hernández, Cerezo, & López, 2007). Additionally, the number of patients in the hallway directly or indirectly affects nurses' quality of life, because it creates a high-stress working environment with little time for nurses to take a break or have a meal. The busy work schedule may result in nurses having to work longer hours and not leave their shift on time as paperwork tends to pile up. To add to the stressors, they are often not paid overtime for these extra hours of work (Hernández, Cerezo, & López, 2007). Furthermore, high workload and overwork conditions are conducive to work accidents, exhaustion, and absenteeism (Robazzi et al., 2012).

It is important to recognize that the individualization of the patient is important for the efficient management of acute pain. Effective acute pain management depends on formal protocols and management guidelines generated in each institution as well as quality programs to evaluate the effectiveness of pain management (Castillo, Gálvez, & García, 2012). However, if there is an overload of patients in the ER, it can affect pain management and consequently jeopardize patients' health outcomes. Furthermore,



addressing these issues can help prevent permanent effects on health workers (De Cassia, Almedia, Oliverira, & Do Campo, 2014).

### **Purpose**

The purpose of this project was to obtain data from a needs assessment in the ER at the practice site where this project took place and to encourage stakeholders throughout other ERs in Puerto Rico to identify antecedents of the problems that relate to ER overcrowding and to inadequate management of pain for patients in the overcrowded ERs. This is the gap that is addressed by this project. The secondary purpose of this project was to provide evidence-based clinical practice guidelines (CPG) that can assist in the development of programs that prevent or eliminate health risk situations such as the one discussed in this project. Through the identification of evidence-based guidelines that help nurses manage the high volume of ER patients, and particularly to address the pain management for patients whose wait times and long hours in the hallways may be reduced (Bartholomew, Parcel, Kok, & Gottlieb, 2006). In addition, this project aims to recommend to stakeholders that they collaborate to create systems that speed up the waiting time to avoid patients from sitting outside the ER, on the floor, regardless of the hour or weather, and nurses from having to step out of the ER to call out patients by number. Finally, the results of this project may encourage stakeholders to examine the guidelines for nurse to patient ratio in the ER and work toward an increased number of nurses to assure quality patient care is maintained.

The practice focused question asked if the overcrowded ER and pain management control were related and if a CPG could be developed to improve pain management in the overcrowded ER setting.

I expect my project will draw the attention from stakeholders and politicians to the problems stemming from overcrowding in the ERs of Puerto Rican hospitals, and move them to make new policies that can promote funding for ER improvement. My objective for the project was to determine the relationship between nurse's pain management and a full emergency and offer recommendations to the specified problems. The specific objectives were to identify factors that promote overcrowding in the ER and identify CPGs that can be implemented to improve those conditions.

### **Definitions**

**Emergency room.** The unit of a hospital that has the function of receiving, examining, assessing, and treating patients requiring emergency medical care because of an accident or sudden illness which cannot be scheduled as an outpatient (Zambrano, 2012).

**Management.** The act of forecasting, organizing, planning, coordinating, commanding, or controlling (Fayol, 1930).

**Overcrowding.** The state of being filled, having more things or people than needed, or being in a state of congestion ("Overcrowding," 2017).

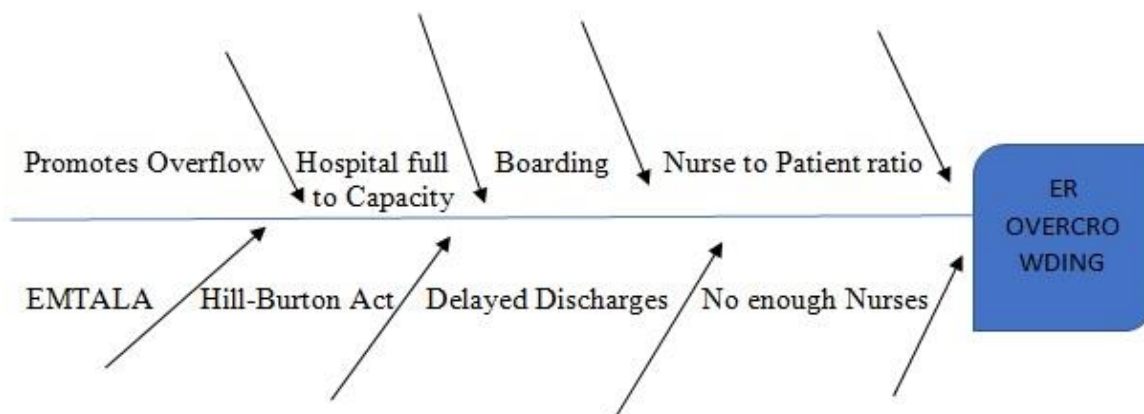
**Pain.** A "sensory-emotional experience and an unpleasantness produced by actual tissue damage" (IASP, 2011).

**Severity of pain.** The degree of pain and suffering the patient relates; also, called pain intensity (OMS, 2012).

### **Nature of the Doctoral Project**

Castillo, Gálvez, & García, (2012) explained that pain is the main reason for consultation in the emergency department and ER. The literature indicates that patients in emergency departments around the world do not always receive optimal pain management care (see Castillo, Gálvez, & García, 2012). The pain management implementation in an ER that overflowed with patients to the hallway was a challenge for nurses. It required the full integration of pain management techniques and translated knowledge about new pain management. Although this project is quantitative descriptive transversal clinical practice study, other studies carried out in the United States are concerned with the causes and effects of a full emergency room (see Castillo, Gálvez, & García, 2012). I used the fishbone diagram as shown in Figure 1 to represent some of the causes and consequences of an ER with hallway overflow. According to Kelly (2011), the problem is the head of the fish, and the cause and effect are the fish bones, divided by the spine. Figure 1 illustrates the expectations of achieving a better understanding through the demonstration of the causes and consequences. The causes are shown on the bottom side of the fish diagram, and the effects on the top part. The head and back of the fish diagram show that lack of nurses increases the number of patient per shift. Puerto Rico has a 1 to 20 nurse to patient ratio on a regular floor (L. Pagan, personal communication, September 11, 2017). In Puerto Rican ERs, two nurses are scheduled per shift (L. Pagan, personal communication, September 11, 2017). The figure also shows

that delaying patient discharges causes boarding in the ER. The discontinuation of the Hill-Burton Act contributed to filling ERs to capacity throughout the United States (Kelly, 2011). The Emergency Medical Treatment and Labor Act (EMTALA) law help promote ER overflow.



*Figure 1.* Fishbone diagram is showing causes and effect of hallway overflow in an emergency room.

### Significance

The emergency department is usually the first-place where patients arrive in search of medical attention (Fosnocht, Heaps, & Swanson, 2004). Pain is one of the reasons for higher consultation in ERs (Fosnocht, Heaps, & Swanson, 2004).

Overcrowding in ERs decreased the flow of nurses' care thus creating a delay in pain management (Fosnocht, Heaps, & Swanson, 2004). If there is a delay in pain treatment, the mental and physical health of patients and families may be adversely affected (see Fosnocht, Heaps, & Swanson, 2004). Addressing the overcrowding phenomenon in Puerto Rican ERs, thus, has implications for positive social change. The evidenced-base knowledge supports that nurses with a high workload are vulnerable to errors when

implementing pain management and treatment for patients (see Castillo, Torres, Ahumada, Cárdenas, & Licona, 2011). This project expects to capture the attention of politicians, stakeholders, and policymakers and focus it on the ER overcrowding phenomenon that interferes with nurses' health care implementation. My project highlights critical areas of the subject not discovered before.

### **Summary**

In this section, I provided the background of the project problem, the problem statement, a justification, and objectives for my project. The section also includes the project's theoretical and conceptual framework. As I have discussed in the section, working in an ER with patient overload has had adverse effects on nurses working in emergency units in hospitals in Puerto Rico.

## Section 2: Background and Context

### **Introduction**

The literature review includes research studies and compiled statistics related to the project topic. In developing the literature review, I followed the recommendations of Polit, and Hungler (2011) who noted that writing a literature review enables a researcher to obtain in-depth knowledge of the project topic.

### **Concepts, Models, and Theories**

I used Callista Roy's (2003) model of adaptation, which illustrates the importance of human adaptation to cope with sudden changes, to examine the implications of overcrowding for nurses. The objectives of the model Callista Roy sought that the individual reaches a maximum level of adaptation and evolution, focusing on the adaptation of man, and the concepts of person, health, nursing, and environment linked globally (Roy & Andrews, 1999). Roy's model is a theory of systems with a meaningful analysis of the interactions (Roy, & Andrews, 1999). The philosophical framework of Roy had among its central concepts and definitions that adjustment problems are broad areas of interest that are related to adaptation (Roy & Andrews, 1999). Also, adjustment problems describe the difficulties presented by indicators of positive adaptation (Roy & Andrews, 1999).

The focal stimulus is the immediate internal or external stimulus that faces the human system (Roy, 2003). Contextual stimuli are the other stimuli present in the situation that contributes to the effect that caused the focal stimulus; extra incentives are environmental factors within or outside the human system that produce a limited impact

about the moment” (Roy & Andrews, 1999, p. 65). Roy also discussed the processes that human beings face. One of them is coping methods and innate or acquired ways to react to changes in an environment. Roy (2003) postulated the following philosophical values and beliefs about nursing:

- Human beings are holistic and transcendent (Roy, 2003).
- Individuals search for self-realization, a reason for their existence (Roy, 2003).
- By exercising self-determination, people, make decisions and, therefore, are autonomous and responsible for the processes of interaction and creativity (Roy, 2003).
- People and the world have shared patterns and integral relationships, which identify them as unique beings (Roy, 2003).
- The transformation of individuals and the environment created in human consciousness the ability of individuals to interpret the standard internal and external environment (Roy, 2003).

Adaptation is “the process and result through which people with thoughts and feelings, either individually or in groups, using awareness and choose to create a human and environmental integration. The integrated process refers to the level of adaptation in which the structures and functions of the whole life process to meet human needs work” (Roy & Andrews, 1999; Roy, 2003). Acquired coping mechanisms originated through methods such as learning (Roy & Andrews, 1999; Roy, 2003). The experiences throughout life contributed to common reactions to stimuli (Roy & Andrews, 1999).

Using Roy's model, I was able to identify relevant concepts and behaviors related to health promotion and integrate research findings to make more straightforward recommendations aimed at improving the quality of service offered by the nursing staff at my practicum site.

### **Relevance to Nursing Practice**

Managing the patient pain is one most important aspects of nursing care. In 2001, the Joint Commission rolled out its Pain Management Standards. It required health care providers to ask every patient about their pain and manage the symptom as befitting each individual case according to an evaluation by the doctor (Baker, 2016). Often nurses in the United States and Puerto Rico consider pain as the "fifth vital sign" (B.L. Rolón, personal communication, September 11, 2017). While the Joint Commission discredits this notion as being a misinterpretation of their standards of pain management and that it is a symptom of a problem and not a vital sign it places great emphasis on treating pain in a case by case manner and that it should be addressed promptly to improve patient outcomes (Baker, D.W., 2016). Inadequately managed pain can lead to adverse physical and psychological patient outcomes for individual patients and their families (Wells, Pasero, McCaffery, 2008). Continuous, unrelieved pain activates the pituitary-adrenal axis, which can suppress the immune system and result in postsurgical infection and poor wound healing. Sympathetic activation can have negative effects on the cardiovascular, gastrointestinal, and renal systems, predisposing patients to adverse events such as cardiac ischemia and ileus (Wells, Pasero, McCaffery, 2008). Of particular importance to nursing care, unrelieved pain reduces patient mobility, resulting in complications such as



deep vein thrombosis, pulmonary embolus, and pneumonia. Postsurgical complications related to inadequate pain management negatively affect the patient's welfare and the hospital performance because of extended lengths of stay and readmissions, both of which increase the cost of care (Wells, Pasero, McCaffery, 2008). Due to the adverse effects of pain on patients and how it negatively affects the outcome, it is of great importance to manage the patient's pain and maintain their comfort throughout their hospital stay. In an overcrowded setting, where there are few nurses to treat more patients than what the ER is actually capable of sustaining, such as the overcrowded conditions in the practicum site, many of the patients' needs are not being met or take too long to be assessed and promptly treated to the detriment of the patient's quality of care. My project addresses this factor in the hope of adding to the knowledge-base of Puerto Rican nurses so that this problem can be more effectively managed and improve the quality of care for the patients.

### **Specific Literature on Pain Management**

Adequacy of pain management for patients, not only in the ER setting but throughout the hospital, is one of the main goals all nurses have, however, it is not always an easy goal to achieve especially in an overcrowded setting (L. Pagan, personal communication, September 11, 2017). Tissue injury that leads to pain is the result of a process called nociception, which has four phases: transduction, transmission, modulation, and perception (Castillo, Gálvez & García, 2012). With transduction, the pain stimulus translates into an electrical signal on the free end of the nerves, also called nociceptors (Castillo, Gálvez & García, 2012). Nociceptors are present in every somatic and visceral

tissue (Castillo, Gálvez & García, 2012). With the transmission, the electrical signal goes through nerve fibers to the central nervous system (IASP, 2011). Pain is the symptom that most often leads the patient to consult medical providers (Fosnocht, Swanson, 2007; Castillo, Gálvez & García, 2012, Fosnocht, Heaps & Swanson, 2004). Pain warns the patient that something is not working correctly and requires a reaction to suppress the cause that produces it (Castillo, Gálvez & García, 2012). Nociception is the perception of pain (Castillo, Gálvez & García, 2012). The nociceptors are receptors, structures, or sensory organs that capture pain or other unpleasant sensations and transmit them to the sensory neurons of the peripheral nerves (White, 2002).

According to Bravo (2010), nurses should be able to assess pain symptoms adequately. Instruments to measure pain intensity must be available for nurses in order to assess such symptoms. Nurses must have the necessary knowledge to administer the right treatment efficiently. They must also assess and record the response to treatment as well. In addition, they should develop and implement protocols for evaluation and treatment of pain (Castillo, Gálvez & García, 2012). Practical analgesic interventions and documentation of responses to these interventions are subject to an analysis that was more thorough (Castillo, Gálvez & García, 2012). The adjusted dose intravenous opioids do not mask critical clinical findings; they also do not increase rates of misdiagnosis or delay the appropriate surgical interventions (IASP, 2011). The protocols include analgesic interventions initiated by nurses that can produce faster pain relief (IASP, 2011).

It is possible that adequate pain control requires the use of opioids short-term immediate release (Curtis, Henriques, Fanciullo, Reynolds & Suber, 2007). Long-term opioid therapy is not advisable (Curtis, Henriques, Fanciullo, Reynolds & Suber, 2007). Initial aggressive analgesic treatment allows early patient mobility and avoids prolonged bed rest (IASP, 2011). The combination of NSAIDs and intravenous opioids is superior to using either single mode, resulting in fast pain relief and less nausea and vomiting (IASP, 2011). Nurses should receive oral or written information from the patient on their level of pain (IASP, 2011). Individuals with pain often exhibit agitation, restlessness, nervousness, gestures, crying, and screaming (Castillo, Gálvez & García, 2012). Nurses can use instruments to measure the autonomic nervous system responses to pain (e.g., increased blood pressure, heart, and respiratory rate (Castillo, Gálvez & García, 2012). The personal description of the patient is probably the best indicator of pain (White, 2010). If a person says that they have pain, it is likely to be true (White, 2010).

### **Types of Pain**

Acute pain is of recent onset time and alerts the individual of the existence of trauma, injury, or the establishment of an ongoing pathology (Castillo, Gálvez & García, 2012, White, 2010). In contrast, chronic pain takes a long time (more than 6 months) without having a definite start date (White, 2010). Chronic pain is considered benign if the causal process is not life-threatening (White, 2010). Neuropathic pain is a form of chronic pain that is due to different diseases, such as diabetes, cancer, and immunological diseases among others (White, 2010). Neuropathic pain can cause injury to a peripheral

nerve and lead to the transmission of pain impulses without there being any event that stimulates nociceptors (White, 2010). Consequences of pain include:

- Increased blood pressure caused by vasoconstriction (White, 2010).
- Increased heart rate from increased stimulation of the sympathetic nervous system. The autonomic nervous system regulates heart activity, blood flow, and inhibition of digestive processes (White, 2010).
- Inhibition of the digestive process caused by nutritional disorders (White, 2010).
- Hyperventilation with increased blood pH values and, as a result, muscle spasms and or loss of consciousness (IASP, 2011).
- An impairment of the immune system and defense mechanisms if the pain is constant for an extended period (White, 2010).

### **Overcrowding in Hospital Emergency Rooms**

The emergency care systems in hospitals encountered an increase in demand for its services worldwide; there were different causes for this problem. However, saturation led to lower quality of service and an increase in mortality associated with timeouts. An essential element concerns health personnel, who performed this type of classification, because of their cultural characteristics and the system applied by each institution; such work played a significant role in the flow of users, as well as the classification. Hospital care units and emergencies integrated components of care system. The purpose of the work of health teams in the emergency room was to serve patients coming in critical condition, accept non-urgent cases and proceed to direct them to primary outpatient or existing specialized network of health care (Gil-Montes, 2002). Recently, hospitals

debated the ability to provide timely care to patients with the emergency medical condition. Although overcrowding has often been the subject of discussion among emergency physicians, few studies have investigated and documented this phenomenon nationwide. Lately, overcrowding documentation used photographs of overcrowded emergency rooms and anecdotes rather than empirical data (Hwang, Richardson, Livote, Harris, Spencer, Sean Morrison, 2008). The shortage of nurses is a structural problem, due in large part to the relentless commodification of medical services and hospital care. Factors such as mergers of hospitals, staff layoffs, wage stagnation and overwork, created over several years, the shortage of nurses, which in recent years has reached crisis levels (Arkansas State University, 2016).

Overcrowding is a problem of saturation of emergency services shared in many countries in the world. Patients have had to endure long hours waiting for evaluation and transfer to another unit, which leads to an unfortunate result in the care, adverse effects on safety, comfort and user satisfaction. It means less time to attend to patients' waiting rooms or ambulances. The nurse of the emergency unit responsible for coordinating the nursing team needed to find ways to manage nursing care, visualizing holistic patient needs, reconciling the objectives of the organization with the aims of the nursing team (Garlet, Da Silva, Guedes & Quintana, 2009). On the other hand, in various areas of the hospital including the emergency room required one nurse to six patients. Nurses associations had struggled to achieve an improvement in this fundamental aspect of their work. The problem had even led to resignations work by nurses with work overload.

Hospitals required nurses to use exhausting days to compensate for the lack of sufficient staff (Arkansas State University, 2016).

Measurement systems workload managers have responded to purely economic strategies in the allocation of staff and the provision of templates, emphasizing quantitative measurement of nursing work (Calvo, 2008). On the other hand, the workload is a set of activities, tasks, and interventions performed by a nurse, about the number of patients who depended on her care. Thus, the workload is a set of psychophysical requirements that the worker is responsible for throughout their working period (Rueda, 2009). When the load was, excessive fatigue appeared, which declined the physical and mental capacity of the individual has done work for a period, this was physical, mental or psycho (Calvo, 2008).

Cubero-Alpizar (2014) enhanced a research project, focused on analyzing the effectiveness of care systems. He reviewed evidence published over the past 15 years, including staff observation that applied to, types of operation, and waiting time before administering health care. The search strategy he used to identify clinical trials was through databases such as Pubmed, Cochrane Library, EBSCO and Google Scholar. The result of the study indicated that emergency room saturation was a problem that created an increase in demand for such services worldwide, with results of poor service- an increase in mortality timeouts.

Hwang, Richardson, Livote, Harris, Spencer, and Morrison (2008) conducted research to evaluate the association of factors of the overcrowded emergency department (ED) with the quality of pain care. Patients were included if they presented with a chief

complaint of pain. The predictor variables studied were ED overcrowding 1) census, 2) number of patients in hospital beds waiting (pensioners), and 3) the number of pensioners divided by census ED (shipping charge). The outcomes of interest were measured process pain care: documentation of clinical pain assessment ordered medications and activity times (e.g., arrival, evaluation, authorization of medicines). Thus, 1068 patients had reviewed visits. Fewer patients were medicated when census was high (> 50th percentile; parameter estimate = -0.47; 95% confidence interval [CI] = -0.80 to -0.07). There was a direct correlation with the total census of erectile dysfunction and increased time for pain evaluation (Spearman  $r = 0.33$ ,  $p < 0.0001$ ), time of analgesic medication orders ( $r = 0.22$ ,  $p < 0.0001$ ), and the time to administrate pain medicine ( $r = 0.25$ ,  $p < 0.0001$ ). Delays were significant (> 1 hour) for pain assessment and the management and administration of pain medicine administrated in periods of high emergency department census and the number of pensioners, but not the shipping charge. ED overcrowding, as determined by the volume of patients had a negative impact on patient care. Also, a greater number of patients in the emergency department if census or the number of pensioners associated with worse pain care.

Bernstein et al. (2009) conducted a project aimed to review the literature addressing the effects of overcrowding on the results of clinical orientation. Literature examined in the English language for years 1989-2007 for case series, cohort studies and clinical trials investigated the effects of overcrowding. An amount of 369 articles identified, of which 41 were for inclusion, and there were no randomized controlled trials. According to the articles, overcrowding correlates with an increment risk of

hospital mortality. Longer waiting times for treatment of patients with pneumonia or acute pain was present, and the items revealed that patients were more likely to leave the emergency department against medical advice. The effects of overcrowding and its relationship with patient satisfaction conducted in the articles showed that clinical objectives, such as mortality, clinically relevant processes of care, treatment time for patients with painful diseases such as pneumonia were directly related to overcrowded conditions. Overcrowding compromised two domains of quality of care safety and punctuality. Recently, there has been a growing debate regarding the ability to provide timely care to patients with emergency medical conditions.

Garlet, Da Silva, Guedes & Quintana (2009) conducted qualitative research, type case project, which aimed to analyze the conceptions of professional health team about the purpose of working in emergencies care unit. The project took place in a hospital emergency unit from the state of the Rio Grande del Sur. The techniques for data collection were observation and a semi-structured interview. The results pointed to the divergence between the needs of health that lead users to seek unity and purpose of work highlighted by local professionals. The team showed dissatisfaction with the excessive pursuit of service for patients and overcrowding, with no classified emergency needs, underlining the sum of attendances as a justification for resistance to doing the job and lack of commitment care production.

Belancieri, Beluci, Silva & Gasparelo (2010), conducted a project to investigate the level of resilience of nursing when working in overcrowded conditions. Aiming to the knowledge, strengths, and weaknesses of the professional facing adversity to which they



are subject. They showed excessive impulse control and difficulties in regulating emotions, which brought them considerable expenditure of energy because they did not externalize their feelings, especially in the working environment. The project concluded that professional health care offering could be a fundamental strategy because giving excellent service to users depends mainly on the safe work environment.

A project by Van Bogaert (2010) suggested that the nurse has constant working pressure, facing pain, suffering, despair, death, helplessness, and anguish; moreover, the lack of workers who can cover the requirements of overcrowded health institutions entirely makes double their workday. The emotional exhaustion that brings their work and the imbalance of relationships with colleagues, organization, patients and the workload caused deterioration in the quality of care.

### **Role of the DNP Student**

As the author of a quantitative clinical practice project, I gathered data from the participants in order to acquire reliable and credible findings of the relationship of pain management in an overcrowded ER with hallway overflow. I used statistical methods for accuracy and delivered conclusions based on results of the analyses and on the results of the literature review.

### **Summary**

My review of the literature confirmed that pain management in an overcrowded emergency room had consequences on patients as well as on health care workers. Some authors who have addressed the concept of pain management are White (2010), Bravo (2010), and the International Association for the Study of Pain (2011). They define what

the key concepts of pain management, such as the type of pain, and the patient perception of pain, and found that pain management is a necessity that it is not easily addressed in an overcrowded health care setting. In reviewing literature, I found that few researchers have directly measured the ratio of an emergency room overcrowded with patients and its effect on the quality of pain management, however, which reinforces the relevance of my work.

### Section 3: Collection and Analysis of Evidence

#### **Introduction**

The purpose of this clinical practice project was to identify the issues that occur in an overcrowded ER when pain management is not provided effectively for patients sitting in the hallway overflow. Additionally, the purpose was to identify if a clinical practice guideline could be developed to improve pain management in the overcrowded ER. The clinical practice project's design gives a detailed description related to the population, sample, and inclusion criteria of the subjects. Furthermore, it presents the method used to collect and analyze data. Ethical issues and permissions required to conduct the clinical practice project are also included in this section.

#### **Practice-focused questions**

The clinical practice problem identified for this project was pain management in a full emergency room with hallway overflow for more than 2 weeks.

The practice focused question asked if the overcrowded ER and pain management control were related and if a CPG could be developed to improve pain management in the overcrowded ER setting.

The full ER staff results showed disproportionate pain management care. The hallway overflow patients waited much longer for treatments than patients in regular beds. Using Beck's design strategies (2011) I tried to get answers to questions. To investigate the relations between variables in the two datasets, I used the Pearson product moment correlation (PPMC). Use of the PPMC correlational analysis helped me to determine the strength or weakness of association and best fit.

The project population refers to a set of individuals or elements that can be used to measure a characteristic or attribute (Polit & Hungler, 2011). The clinical practice project's population consisted of nurses from the emergency room of the practicum site. The sample consisted of 10 nurses from a population of 20 nurses who worked in the emergency room of a Puerto Rican hospital. I used the fishbowl draw method to select participants from the small population randomly. Table 1 includes the project criteria.

Table 1

*Project Criteria*

| Inclusion criteria         | Exclusion criteria                             |
|----------------------------|--|
| BSN, MSN, and Ph.D. nurses | Under 21                                       |
| Work in an emergency room  | Not interested in participating in the project |
| Over 21 years' old         |  |
| Of both sexes              |  |

**Sources of evidence**

To obtain data, I constructed a questionnaire using the project variables (see Appendix B). The questionnaire had two parts: The first part included sociodemographic questions while the second part was related to indicators on the subject under the project. These indicators were measured on a scale having 3 points, with following response options, agree, undecided or disagree.

Part of the validation consisted of a panel of three experts who evaluated the instrument and determined if it met the objectives of the project and secondarily evaluated the CPG that was identified for the project. I met with the experts and invited

them to the formal part of the document panel. The information provided to the participants explained the project, as well as the risks and benefits, and guaranteed the confidentiality of participants. The experts used a form validation to determine the clarity and relevance of the premises within the questionnaire. I acknowledged the experts' recommendation by revising the questionnaire to fit the objectives of the project and also for improved wording in order to simplify the participants' understanding of the project premises. The committee additionally reviewed the CPG and determined that it would be effective as written and to present to the hospital administration for implementation.

### **Analysis and Synthesis**

The recommendations made by Polit and Hungler (2011) and Walden University's Institutional Review Board (IRB) determine the use of the data collection method in this project. Walden University IRB received the proposal for approval, and the authorization to the hospital administration where the project took place was in writing. I presented to both the Walden University IRB and the hospital administration the purpose of the project and the need for it as part of an academic project.

Once the IRB approved the project (approval number: 07-27-17-0598711), I met with the floor supervisor to identify participants who met the inclusion criteria. I also explained the need to conduct the project as part of an academic project and discussed which dates were available for data collection as well as details relating to the procedure used to collect the data. I explained the method of the project and the information contained in the fact sheet. I performed the selection of participants every three shifts randomly.

Once the recruitment of participants took place, I presented before them and explained their participation in the project. During this first interview, there was an explanation of the purpose and the type of instrument to collect data and practical benefits of participating in it. I then delivered the newsletter to participants who agreed in writing to participate voluntarily. I handed out the questionnaire. Moreover, I relayed how I would conduct the process in strict confidentiality and privacy, respecting the subjects' decision to join or not join the project.

### **Data analysis**

The data was measured using descriptive statistics adding the frequencies of the answers averaging and obtaining the percentage of each of the data. The achieved and summed results provided the percentage of the answers. Excel was the program used for the tabulation of results. To find the relation between variables the Pearson Product Moment Correlation (PPMC) expressed the degree of relationship between variables (1) nursing pain management (2) an emergency room with hallway overflow.

### **Project Evaluation Plan**

I submitted the project proposal to the Human Rights Office of Walden University (IRB) for analyzing the content thereof, to determine that it met the project variables. I processed the data collection analyzing all the information collected and compared with the literature presented in this project, to answer the questions of the project, and to provide conclusions and recommendations. During and after completion process, I use the standard mechanisms to protect the identity and confidentiality of all material addressed in this project. I then identified the CPG that would be included in the review by the expert panel.

## **Human Rights Protection**

I took IRB and Health Insurance Portability and Accountability Act of 1996 (HIPAA) certifications related to federal confidentiality laws and the ethical protection of human rights during the project to ensure the protection of individuals, the principles of confidentiality, and identity protection (see Appendix C). I explained that participation in the project was free and voluntary and the minimal risk of completing the instrument. The physical, psychological, social, legal, or other real risk was minimal. The only potential risk of the participants was feeling slightly tired and bored in completing the instrument because the questionnaire was to be completed as part of the paperwork for the shift. During recruitment, I provided participants with the explanation of the purpose of the project and what their participation in the project entailed to ensure their free and voluntary participation. The informed consent form included the purpose of the project and the instrument and the type of questions.

Upon approval of the project by Walden University's IRB, I waited for authorization from the hospital where I conducted the project. Participants who agreed voluntarily to be part of the project could freely withdraw at any time. I explained in advanced the potential benefit of being part of the academic project. Participants had no financial compensation for their participation. I was always available to answer questions or concerns about the project. Once participants responded to the instrument, I began tabulation and analysis.

Participants understood that if they felt there was a violation of their rights, they could utilize the card given to them with the phone number of the Human Rights Office of Walden University (IRB) and Grade Mentor Project to communicate whenever they

needed too. I provided a phone number for any questions arising from any participant, after having been part of the project and completed the process of data collection in the hospital under the project. Once the collection of the questionnaires took place, I kept the fact sheet saved on separate instruments to ensure objectivity and purity of the sealing process. There was no connection with the information provided in the consent such as dates and signatures with the information given by participants in the questionnaire during and after the investigation. Both documents will be locked away in a drawer in my home for five years, then destroyed with a shredder. The project warranted participants in advance, the periodic review of appropriate measures to protect their rights, welfare, and dignity as human beings who participate in a project action.

#### **Precautions to minimize risks**

I used a simple vocabulary, not offensive, to connect with the participants, who allowed time to fill out the questionnaire in full and self-removal from participation in the project whenever they wanted without penalty. I was available to answer questions during the administration of the instruments as well as any questions that arose afterward. The instruments had a control number assigned to them to relate them to the other documents, but no identifying information was used in the questionnaire.

#### **Summary**

The chapter explained the project design, guided by Polit and Hungler (2011). As part of the project method, project variables, information about the instrument and its validity was an exhibit. In addition, I ensured the process of collecting the necessary data described to complete the project and protection of human rights of potential project participants, in line with the criteria for inclusion and exclusion of potential participants.



## Section 4: Findings and Recommendations

### **Introduction**

This chapter presents the results of the project, which encompassed an examination of the relationship between nursing pain management and an ER with hallway overflow. Part 1 consists of the demographic data gathered from the sample. Part 2 describes the reagents of the analysis of the questionnaire. Part 3 presents the project questions as well as the revision of the project objectives and describes the data collection and coding based on the project methods examined in Section 3. The last part is an analysis of the findings related to the three project objectives and the various data analysis completed using SPSS as well as the recommendations made based on the findings of this project. The data analysis was based on the project question, What is the relationship between pain management and a full ER with hallway overflow?

### **Findings and Implications**

At the beginning of the study, I calculated that, based on the nurses' population of the practicum site which consisted of a small population of 20 nurses spread over three 8-hour shifts, my significant sample would consist of 20 nurses for my ideal survey sample. This sample was obtained using a confidence level of 95%, a percent error of 5%, and a population ratio of 50%. When the study was presented to the ER staff, it was not possible to generate the interest in the study necessary to obtain the ideal sample due to problems of availability of time by the staff, and the available sample, although interested, did not all meet the necessary inclusion criteria for various reasons. In the end, only 11 participants completed the survey in time and of these 10 instruments were

chosen using the fishbowl randomization method to avoid answer bias due to the uneven number of participants. This problem with sample availability also illustrates one of the findings of this study which is that even when the ER doesn't have an overflow to hallways, there is still too few staff to tend to patients and therefore making pain management difficult for the nurses, a problem that increases when there is an overflow of patients to hallways.

### **Demographics Data**

Table 2 includes the distribution of the demographic data for the project participants.

Table 2

#### *Analysis of Demographic Data*

| Demographic categories | Frequency (f) | Percentage |
|------------------------|---------------|------------|
| <b>Gender</b>          |               |            |
| Male                   | 5             | 50%        |
| Female                 | 5             | 50%        |
| Total                  | 10            |            |
| <b>Age</b>             |               |            |
| 21 to 30               | 7             | 70%        |
| 31 to 40               | 3             | 30%        |
| 41 to 50               | 0             | 0%         |
| 51 to more             | 0             | 0%         |
| Total                  | 10            |            |

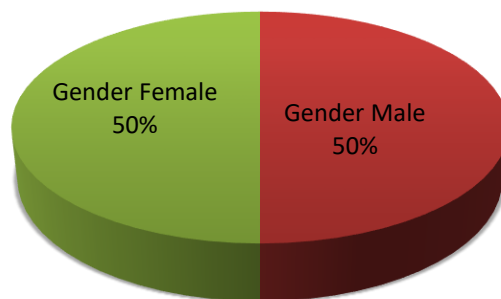
*(Table Continues)*

| Demographic categories     | Frequency (f) | Percentage |
|----------------------------|---------------|------------|
| <b>Civil status</b>        |               |            |
| Single                     | 5             | 50%        |
| Married                    | 5             | 50%        |
| Widow                      | 0             | 0%         |
| Other                      | 0             | 0%         |
| Total                      | 10            |            |
| <b>Time in ER</b>          |               |            |
| 1 to 2 years               | 4             | 40%        |
| 3 to 4 years               | 6             | 60%        |
| 5 years or more            | 0             | 0%         |
| Total                      | 10            |            |
| <b>Level of profession</b> |               |            |
| BSN                        | 8             | 80%        |
| MSN                        | 2             | 20%        |
| PhD/DNP                    | 0             | 0%         |
| Other                      | 0             | 0%         |
| Total                      | 10            |            |

There was an even number of nurses of both genders working in the department and an even split in the marital status between married and single participants. The age range was between 21 and 40 years of age. All participants had been working between 1 and 4 years in the department. The majority of those working in the department possessed

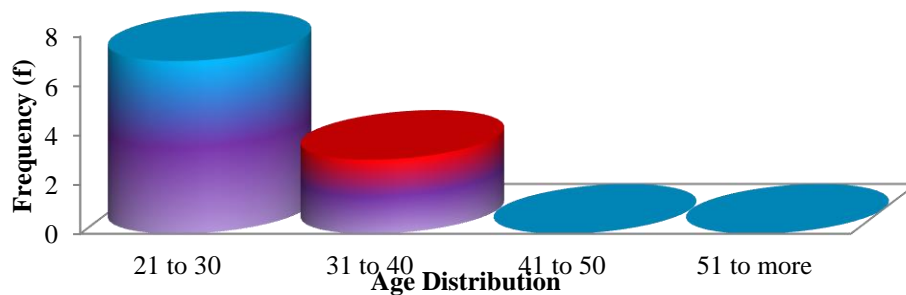
Bachelor's Degree in Nursing Sciences with only two participants having a Master's degree.

Figure 2 shows the distribution of the sample by gender. Fifty percent ( $f = 5$ ) of the participants were women. The remaining 50% ( $f = 5$ ) were men.



*Figure 2.* Gender distribution in the ER.

Figure 3 illustrates the distribution of the sample by age. Most of the participants, 70% ( $f = 7$ ) indicated ages ranging from 21 to 30, while 30% ( $f = 3$ ) stated ages between 31 to 40.



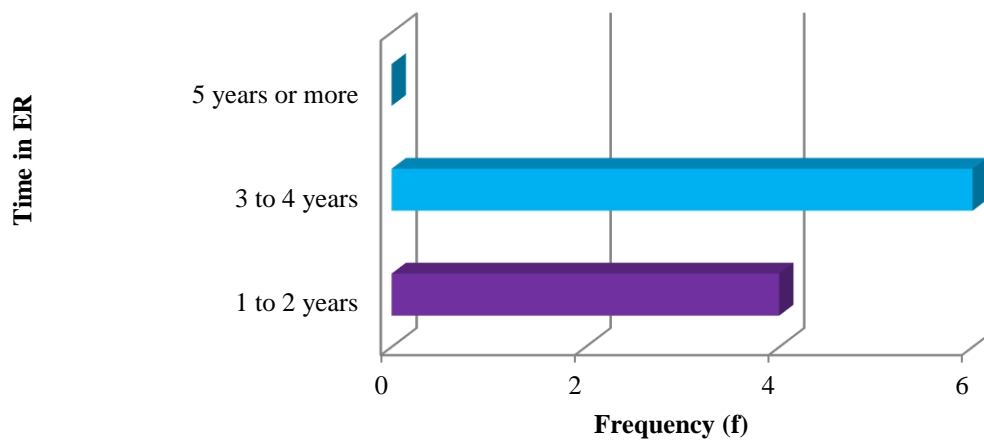
*Figure 3.* Age distribution in the ER.

Figure 4 demonstrates the distribution of the sample by civil status. The sample was equitable. Fifty percent ( $f = 5$ ) of the participants were single, and the remaining 50% ( $f = 5$ ) were married.



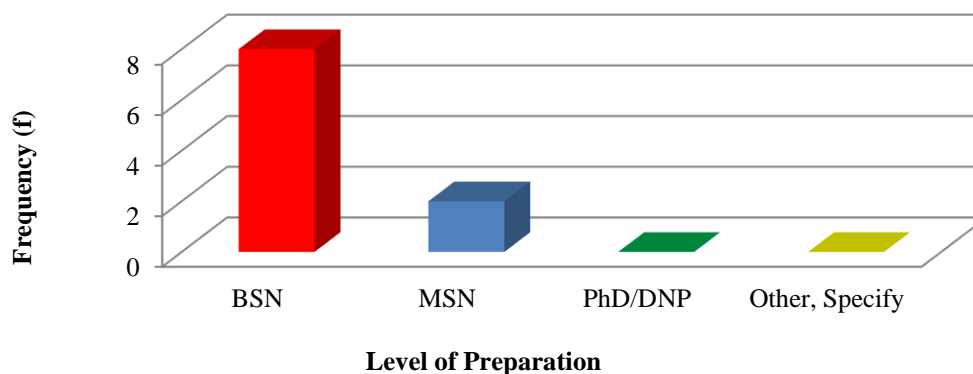
Figure 4. Civil status distribution in the ER.

Figure 5 presents the distribution of the sample by time working in the ER. Forty percent ( $f = 4$ ) of the project participants indicated that they had between 1 to 2 years of work experience in the ER. Meanwhile, 60% ( $f = 6$ ) stated that they had between 3 to 4 years working in the ER.



*Figure 5.* Time working in the ER, distribution.

Figure 6 represents the distribution of the sample by professional level. Most of the participants, 80% ( $f = 8$ ), indicated that they had a bachelor's degree. Meanwhile, 20% ( $f = 2$ ) stated that they had a master's degree.

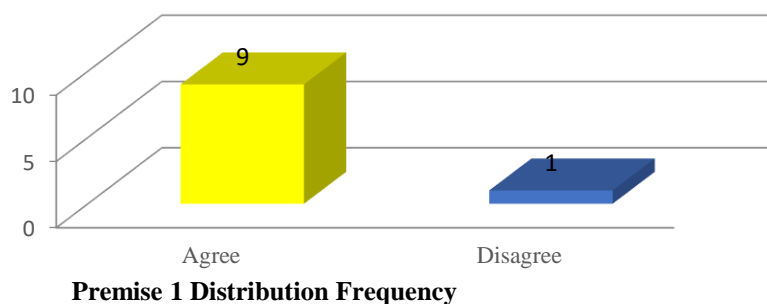


*Figure 6.* Age Distribution in the ER

### **Analysis of the reagents**

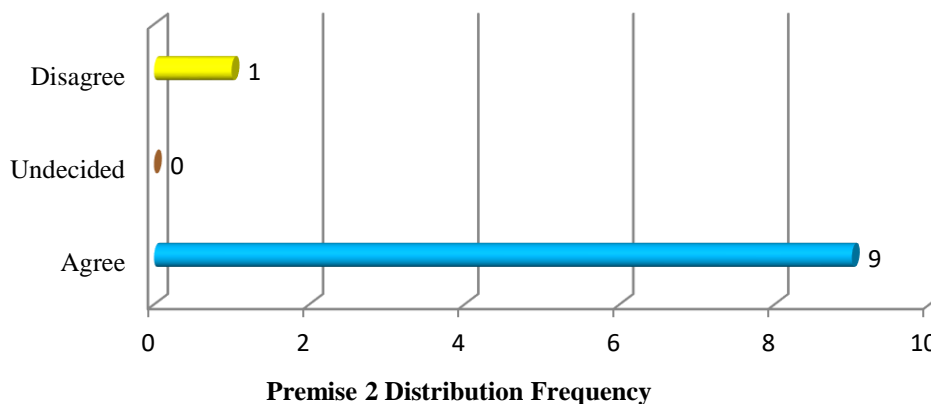
The table in Appendix A represents the analysis of the frequency of answers to the premise questions. The greater majority of the 10 participants agreed with all of the 12 premises reviewed with only a few in disagreement or undecided, which depended on the premise.

Figure 7 illustrates the distribution sampler according to premise 1: Multiple health events in the Emergency Department affects the performance and working capacity of nurses. Showed that most of the participants, 90% ( $f = 9$ ) agreed that the multiple health events in the Emergency Department affected the performance and working capacity of nurses. Meanwhile, 10% ( $f = 1$ ) disagree.



*Figure 7.* Distribution of the sample according to Premise 1 - The multiple health events in the Emergency Department affects the performance and working capacity of nurses

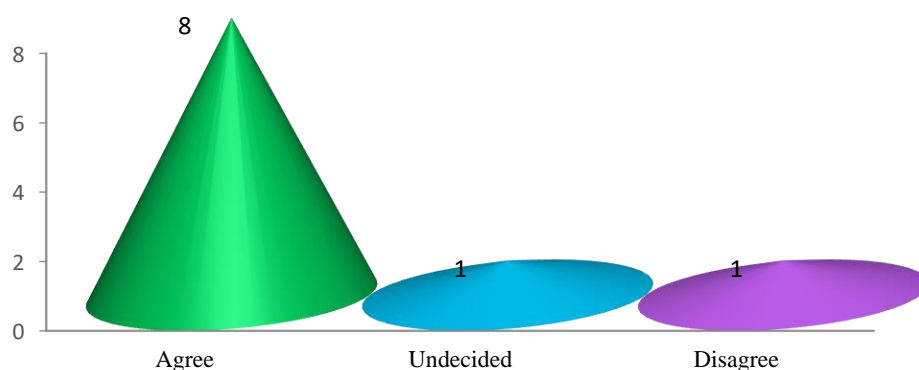
Figure 8 presents the distribution sampler according to premise 2: Emergency Department hallways overflow impedes nurses to work responsibly. The 90% ( $f = 9$ ) of the project participants indicated agree that Emergency Department hallways overflow was an obstacle for nurses to work responsibly. The 10% ( $f = 1$ ) stated that Emergency Department hallways overflow was not a barrier for nurses to work responsibly.



*Figure 8.* Distribution of the sample according to the premise 2 -Emergency Department hallways overflow is an obstacle for nurses to work responsibly.

Figure 9 describes the distribution of the sample according to premise 3: Physical exhaustion due to the high volume of patients affects critical judgment when the nurse

handles patients with pain. Most of the project participants, 80% ( $f = 8$ ) agreed that physical exhaustion due to the high volume of patients affects critical judgment when the nurse handles patients with pain. The 10% ( $f = 1$ ) indicated that there is not physical exhaustion due to the high volume of patients that affected critical judgment when the nurse handles patients with pain. Meanwhile, 10% ( $f = 1$ ) remained undecided.

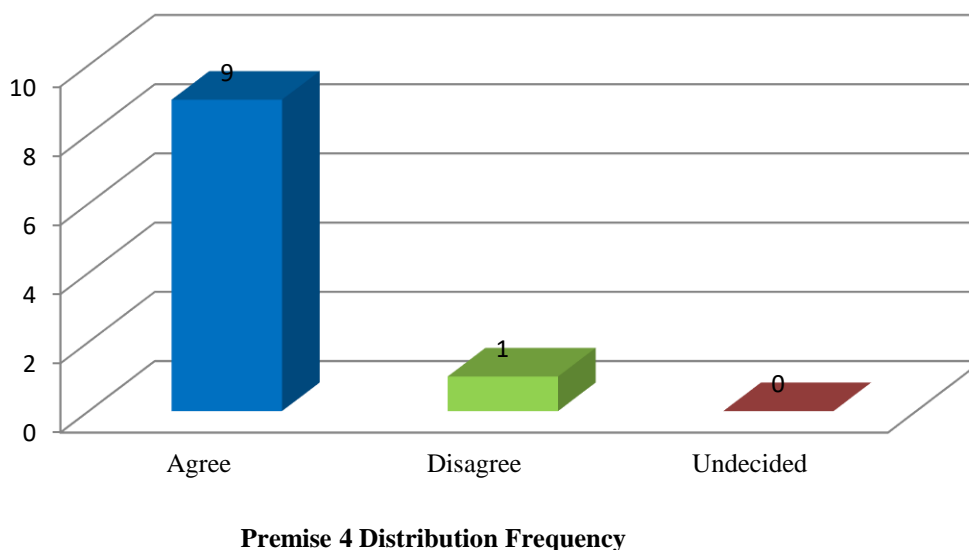


**Premise 3 Distribution Frequency**

*Figure 9.* Distribution of the sample according to the premise 3 - Physical exhaustion due to the high volume of patients affects critical judgment when the nurse handles patients with pain.

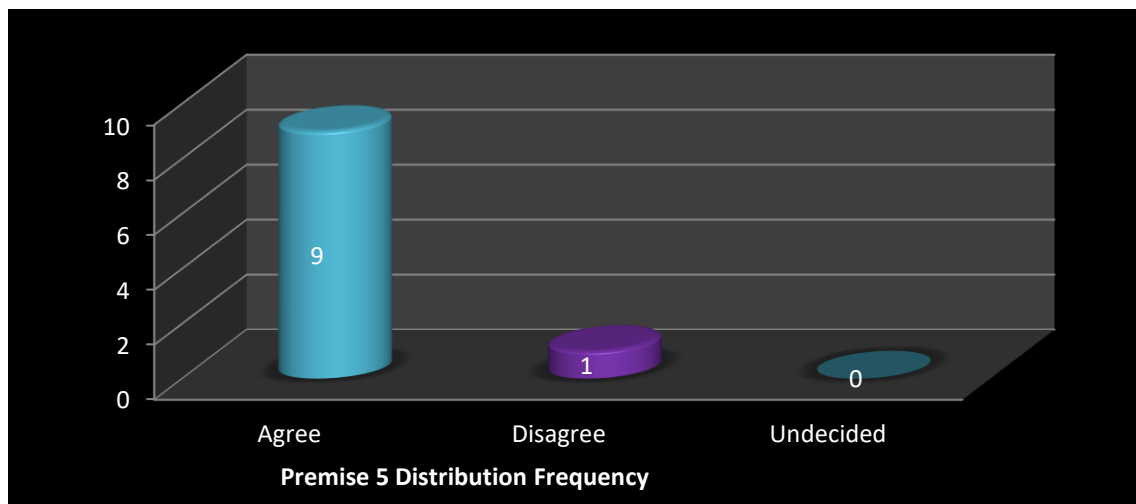
Figure 10 describes the distribution of the sample according to the premise 4: Institution protocol guidelines contribute to effective pain management in an overcrowded emergency room. Most of the project participants, 90% ( $f = 9$ ) agreed that Institution protocol guidelines contributed to effective pain management in an overcrowded emergency room. The 10% ( $f = 1$ ) remained undecided that the institution protocol guidelines committed to active pain management in an overcrowded emergency room.





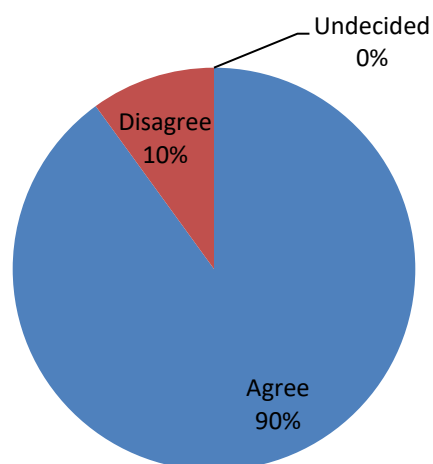
*Figure 10.* Distribution of the sample according to the premise 4 - Institution protocol guidelines contribute to effective pain management in a crowded emergency room.

Figure 11 presents the distribution of the sample according to premise 5: Overcrowding in the emergency room limits resources and nurse performance thus jeopardizing patients' lives. Most of the project participants, 90% ( $f = 9$ ) agreed that overcrowding in the emergency room limited resources and nurse performance thus jeopardizing patients' lives. The 10% ( $f = 1$ ) disagreed that the overcrowding in the emergency room limited resources and nurse performance thus jeopardizing patients' lives.



*Figure 11.* Distribution of the sample according to premise 5 - Overcrowding in the emergency room limits resources and nurse performance thus jeopardizing patients' lives

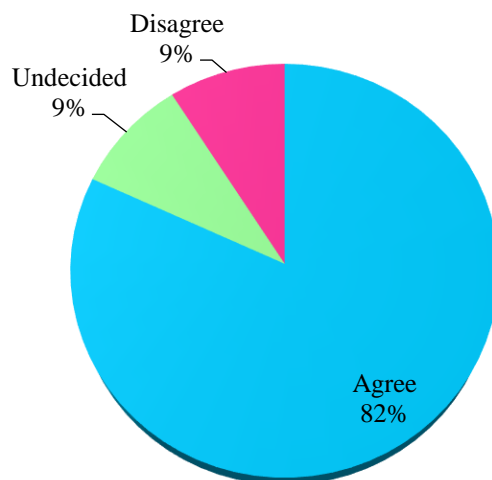
Figure 12 describes the distribution of the sample according to premise 6: The complexity of patients in an Emergency Department that is overcrowded doubles the risk of medication error. Most of the project participants, 90% ( $f = 9$ ) agreed that the complexity of patients in an Emergency Department that is overcrowded doubled the risk of medication error. The 10% ( $f = 1$ ) was undecided that the complexity of patients in an Emergency Department that is overcrowded duplicated the risk of medication error.



**Premise 6 Distribution Fequency**

*Figure 12.* Distribution of the sample according to premise 6 - The complexity of patients in an Emergency Department that is overcrowded doubles the risk of medication error.

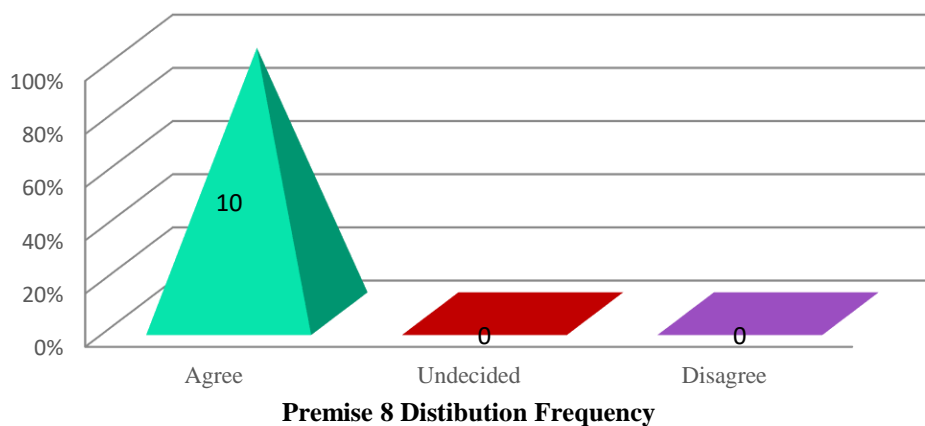
Figure 13 illustrates the distribution of the sample according to premise 7: Environmental, cultural, and social influences significantly determine the intensity of the pain in the Emergency Department. Most of the project participants, 90% ( $f = 9$ ) agreed that the environmental, cultural, and social influences greatly determined the intensity of the pain in the Emergency Department. The 10% ( $f = 1$ ) was undecided that the environmental, cultural, and social influences significantly determined the intensity of the pain in the Emergency Department, and 10% ( $f = 1$ ) disagree.



**Premise 7 Distribution Frequency**

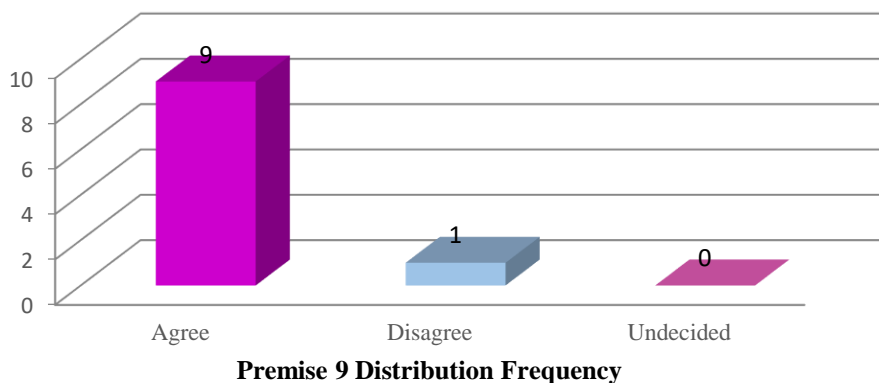
*Figure 13.* Distribution of the sample according to premise 7 - Environmental, cultural, and social influences significantly determine the intensity of the pain in the Emergency Department.

Figure 14 represents the distribution of the sample-according premise 8: Nurses used different standard tools to evaluate pain with every patient in an overcrowded Emergency Department. The total of the participants, 100% ( $f = 10$ ) agreed that nurses used different Standard tools to evaluate pain with every patient in the overcrowded Emergency Department.



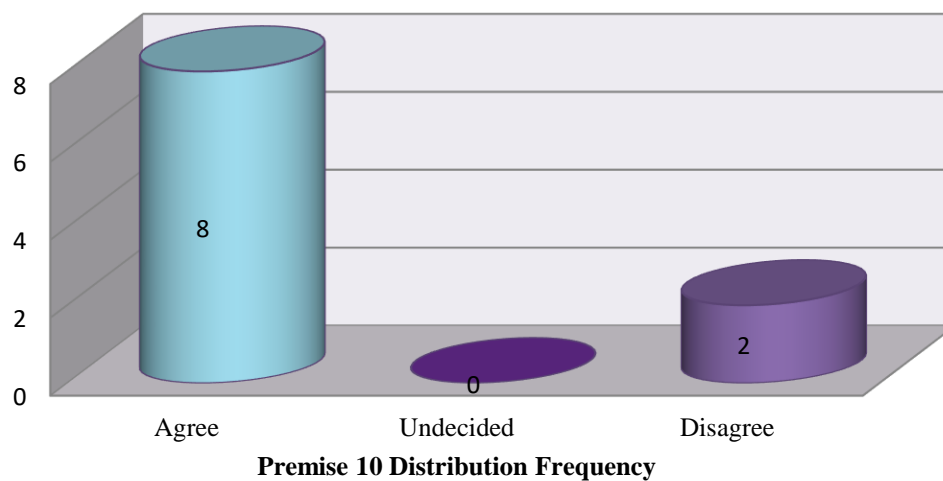
*Figure 14.* Distribution of the sample according to premise 8 - Different standard tools for assessing pain are frequently used with every patient in an overcrowded Emergency Department.

Figure 15 demonstrates the distribution of the sample according to premise 9 - The overflow of patients in hallways represents a negative impact on both the patient and nurses. The 90% ( $f = 9$ ) of the project participants agreed the overflow of patients in hallways represented an unfavorable impingement on both the patient and nurses. The 10% ( $f = 1$ ) disagree that the overflow of patients in hallways accounts for a negative impact on both the patient and nurses.



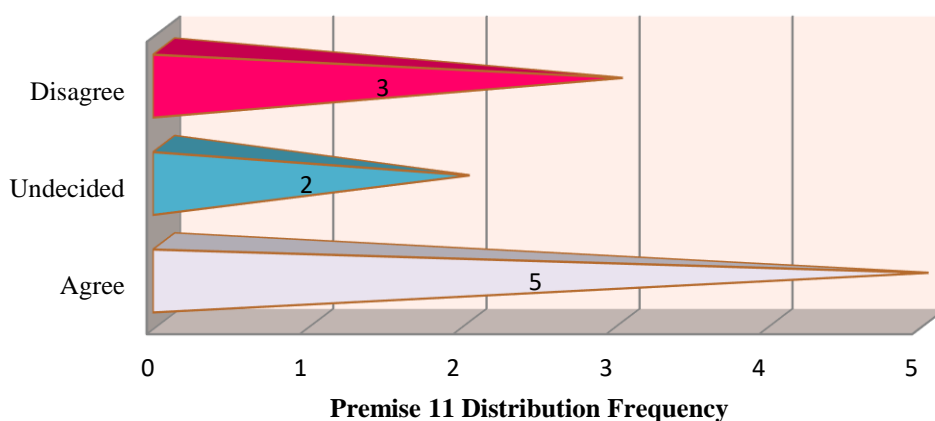
*Figure 15.* Distribution of the sample according to premise 9 - The overflow of patients in hallways represents a negative influence on both the patient and nurses.

Figure 16 represents the distribution of the sample according to premise 10: Nurses with a high level of knowledge about pain cannot employ it, as they should because the time to spend with each patient on an overcrowded Emergency Room is limited. The 80% ( $f = 8$ ) of the project participants agreed that nurses with a high level of knowledge about pain could not employ it as they should because the time to spend with each patient on an overcrowded Emergency Room was limited. The 20% ( $f = 2$ ) disagreed that nurses with a high level of knowledge about pain cannot employ it as they should because the time to spend with each patient on an overcrowded Emergency Room was limited.



*Figure 16.* Distribution of the sample according to premise 10 - Nurses with a high level of knowledge about pain cannot employ it, as they should because the time to spend with each patient on an overcrowded Emergency Room is limited.

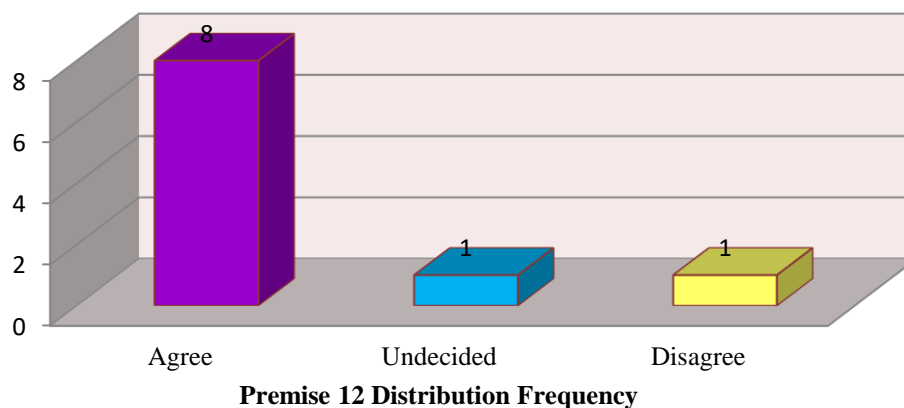
Figure 17 presents the distribution of the sample according to premise 11: Patient individualization is always taken into consideration in the overcrowded Emergency Department as efficient management of acute pain. The 50% ( $f = 5$ ) of the project participants agreed that account in patient individualization existed in the overcrowded Emergency Department and was efficient management of acute pain. The 30% ( $f = 3$ ) disagreed that patient individualization was always taken into account in the overcrowded Emergency Department as efficient management of acute pain, and 20% ( $f = 2$ ) were undecided.



*Figure 17.* Distribution of the sample according to premise 11 - Patient individualization was essential in the overcrowded Emergency Department as efficient management of acute pain.

Figure 18 illustrates the distribution of the sample according to premise 12: Nurses with a high workload could make mistakes in the pain management offered to acute and chronically ill patients in an overcrowded Emergency Room. The 80% ( $f = 8$ ) of the project participants agreed that nurses with a high workload could make mistakes

in the pain management offered to acute and chronically ill patients in an overcrowded Emergency Room. The 10% ( $f = 1$ ) disagreed that nurses with a high workload could make mistakes in the pain management offered to acute and chronically ill patients in an overcrowded Emergency Room, and 10% ( $f = 1$ ) was undecided.



*Figure 18.* Distribution of the sample according to premise 12 - Nurses with a high workload could make mistakes in the pain management offered to acute and chronically ill patients in an overcrowded Emergency Room.

### **Project Question**

*What is the relationship between pain management and a full emergency room with hallway overflow?*

The results presented in Table 4 show a positive correlation analysis between pain management and a full emergency room. In Table 5 the findings were related to the demographic data and the pain management and a full emergency room with hallway overflow variable.



Table 3

*Analysis of correlation between the pain management in ER with hallway overflow and reagents*

| Pain Management   | Relationship (r) | Probability (p) |
|---|------------------|-----------------|
| ER hallways overflow impedes nurses to work responsibly. Also, the multiple health events in the ER affects the performance and working capacity of nurses  | 1.00             | 0.00            |
| The multiple health events in the ER affects the performance and working capacity of nurses. Physical exhaustion due to the high volume of patients affects critical judgment when the nurse handles patients with pain                 | 0.885            | 0.001           |
| Overcrowding in the emergency room limits resources and nurse performance thus jeopardizing patients' lives. The multiple health events in the ER affects the performance and working capacity of nurses                                | 1.000            | 0.000           |
| Overcrowding in the emergency room limits resources and nurse performance thus jeopardizing patients' lives. ER hallways overflow impedes nurses to work responsibly  | 1.00             | 0.00            |
| Overcrowding in the emergency room limits resources and nurse performance thus jeopardizing patients' lives. Physical exhaustion due to the high volume of patients affects critical judgment when the nurse handles patients with pain | 0.885            | 0.001           |
| Nurses with a high workload could make mistakes in the pain management offered to acute and chronically ill patients in an overcrowded ER. Institution protocol guidelines contribute to effective pain management in an overcrowded ER | 0.885            | 0.001           |

*(Table Continues)*

| Pain Management  | Relationship<br>(r)             | Probability (p) |
|--|---------------------------------|-----------------|
| Patient individualization always took into consideration in the overcrowded ER as efficient management of acute pain. Nurses with a high level of knowledge about pain cannot employ it, as they should because the time to spend with each patient on an overcrowded ER is limited. | 0.688                           | 0.028           |
| The overflow of patients in hallways represents a negative impact on both the patient and nurses. Nurses with a high level of knowledge about pain cannot employ it as they should because the time to spend with each patient on an overcrowded ER is limited                       | 0.667                           | 0.035           |
| Institution protocol guidelines contribute to effective pain management in an overcrowded emergency room. Nurses with a high workload could make mistakes in the pain management offered to acute and chronically ill patients in an overcrowded Emergency Room                      | 0.885                           | 0.001           |
| <b>Note:</b>   |                                 |                 |
| <b>Value of r</b>  | <b>Strength of relationship</b> |                 |
| -1.0 to -0.5 or 1.0 to 0.5   | Strong                          |                 |
| -0.5 to -0.3 or 0.3 to 0.5   | Moderate                        |                 |
| -0.3 to -0.1 or 0.1 to 0.3   | Weak                            |                 |
| -0.1 to 0.1  | None or very weak               |                 |

Table 3 presents the analysis of the correlation between the variables of the project. According to the obtained data, there was a significant strong relationship between Emergency Department hallways overflow, and the multiple health events in the Emergency Department were an impediment for nurses to work responsibly and affected the performance and working capacity of nurses ( $r = 1.00$ ,  $p = .000$ ). In addition, there was a significant strong relationship between the multiple health events in the Emergency Department. Affecting the performance, working capacity of nurses, and caused physical exhaustion due to the high volume of patients. Furthermore, the critical judgment of

nurses was also affected when the nurses handle patients with pain ( $r = .885, p = .001$ ). There was a significant strong relationship between overcrowding and the limit of resources in the emergency room enough to jeopardizes patients live. The multiple health events in the Emergency Department affected the working performance of nurses ( $r = 1.00, p = .000$ ). Emergency Department hallways overflow impeded for nurses to work responsibly ( $r = 1.00, p = .000$ ). Nurses experience physical exhaustion due to the high volume of patients that affected critical judgment when handling patients with pain ( $r = .885, p = .001$ ).

There was a significant strong relationship between nurses with a high workload and pain management; it promoted mistakes when offering pain management to acute and chronically ill patients in an overcrowded Emergency Room. Institution protocols guidelines contributed to an effective pain management in an overcrowded emergency room ( $r = .885, p = .001$ ). There was a significant strong relationship between patient individualization and the level of knowledge about pain. Individual care was always taken into consideration in the overcrowded Emergency Department as efficient management of acute pain. However, nurses with a high level of knowledge about pain could not employ it as they should because the time to spend with each patient on an overcrowded Emergency Room was limited ( $r = .688, p = .028$ ).

There is a significant strong relationship between the overflow of patients in hallways representing an adverse impact on both the patient and nurses. Moreover, nurses with a high level of knowledge about pain could not employ it as they should because the time to spend with each patient on an overcrowded Emergency Room was limited ( $r =$

.667,  $p = .035$ ). There was a significant strong relationship between institution protocol guidelines contributed to effective pain management in an overcrowded emergency room, and nurses with a high workload could make mistakes in the pain management offered to acute and chronically ill patients in an overcrowded Emergency Room ( $r = .885$ ,  $p = .001$ ).

Table 4

*Analysis of Differences Between Variables in the Emergency Room*

| Demographic variables              | <i>t</i> | <i>p</i> |
|------------------------------------|----------|----------|
| Gender                             | -7.701   | 0.00     |
| Age                                | -7.719   | 0.00     |
| Civil status                       | -6.291   | 0.00     |
| Time working in the emergency room | -6.372   | 0.00     |
| Level of profession                | -10.832  | 0.00     |

*Note.*  $t = t$  Students.

Table 4 presents the analysis of differences using the arithmetic means of each variable, and the t-test coefficient for small samples. The findings between the demographic data and the variable pain management and a full emergency room with hallway overflow pointed out that there would be a difference between the variable genre and the variable pain management and a full emergency room with hallway overflow ( $t = -7.701$ ,  $p = .00$ ). In both genders, female and masculine, the pain management with a full emergency room with hallway overflow was challenging. The male sex (50%) presented more difficult than the female genre (40%) to management for the patients in a full

emergency room with hallway overflow. In addition, there was the difference between the variable age and the variable pain management and a full emergency room with hallway overflow ( $t = -7.719$ ,  $p = .00$ ). The data reflected that the participants between 21 to 30 years (60%) presented more difficulties administrating pain management in a full emergency room with hallway overflow than those between 31 to 40 years (30%).

According to the variable civil status and the variable pain management and a full emergency room with hallway, overflow pointed out that there would be a significant difference between these two variables ( $t = -6.291$ ,  $p = .00$ ). The 50% of married participants presented more difficulties with pain management in a full emergency room with hallway overflow than those that were single (40%). Meanwhile, there would be the difference between the variable time working in Emergency Room and the variable pain management and a full emergency room with hallway overflow ( $t = -6.372$ ,  $p = .00$ ). The 60% of the participants with 3 to 4 years working in Emergency Room presented more difficulties with pain management in a full emergency room with hallway overflow. There was the difference between the variable level of profession and the variable pain management and a full emergency room with hallway overflow ( $t = -10.832$ ,  $p = .00$ ). The 70% of the BSN participants of the project (level of the profession) in comparison of MSN participants presented more difficult with pain management in a full emergency room with hallway overflow.

### **Implications**

The results of the project showed that there is a strong significant relationship between pain management and a full emergency room with hallway overflow.

Furthermore, the results established that nursing staff working in emergency room faces problems when caring for patients. Some authors, such as Pines, Hilton, Weber, Alkemade, The Shabanah, et al. (2011) confirmed this finding. Considering that crowding in the emergency department is known as the most severe problem that endangers the reliability of health care system worldwide. The American College of Emergency Physicians (2006) defined crowding as a situation in which the identified need for emergency services surpassed available resources for patient care in the emergency department, hospital, or both.

Schneider, Gallery, Schafermeyer, Zwemer (2003) point out that one main factor that may cause crowding was inadequate staffing. Half of the emergency department exceeded recommended patient to nurse ratio of 4:1 for routine emergency department beds and 68% a patient to nurse ratio of 1:1 for critical care beds (Rose & Ramagnano, 2013). The mean nurse: patient ratios in the morning shift were 1:15, at afternoon shift 1:7 and at night 1:4. Schneider, Gallery, Schafermeyer, Zwemer (2003) also established in their project that the response rate was 36%, and at the index time, there was an average of 1.1 patients per treatment space, and 52% of emergency department reported more than one patient per treatment space. There was evidence of personnel shortage. Each nurse had to attend an average of 4.2 clients. There was an average of 9.7 patients per physician. Sixty-eight percent of the emergency department had each physician caring for more than six patients. There was crowding present in every area of the emergency room and other regions of the hospital. Consistent with 11% of ambulance diversion crowded, because institutions were not accepting new acute patients. Delays in

the transfer of patients from the emergency department to a hospital room contributed to the physical crowding. Twenty-two percent of patients in the emergency department was already admitted and were awaiting transfer to an inpatient bed; 73% of emergency department were boarding 2 or more inpatients. The quantified crowding in the project confirmed the amount of crowding reported for the previous week. The emergency department had a 48% boarding in patients during previous week for a mean of 8.9 hours, (4.2 days a week). 31% had been on diversion; 59% had been routinely using their halls for patients; 38% had been doubling their rooms, and 47% assigned to treat patients out of the treatment area.

Another relevant finding of the project is the pain management to patients by nursing professionals. Although the hospital has its protocol of pain management, and in the project, a significant relationship was found between the protocols for the pain management in the Hospital but even, so the nursing professionals in the emergency room made mistakes in the pain management of patients due to the workload. Institution protocol guidelines contributed to effective pain management in an overcrowded emergency room, but nurses with a high workload were prone to make mistakes in the pain management offered to acute and chronically ill patients in an overcrowded Emergency Room ( $r = .885$ ,  $p = .001$ ).

The findings related to the pain management and associated literature written by Motov & Khan (2009) pointed out that pain was the most common reason that patients sought care in emergency rooms. Pain is no respecter of people, gender, race or age. It strikes acutely or lingers chronically, causing physiological and social disturbances and

forcing people to seek assistance. Considering the impact that pain makes on patients, emergency department physicians need to be well versed in its management, particularly in its onset presentation. Physicians struggle to remodel the habit of using opioid analgesics for pain management. US, Australia, and Canada have conducted over 25 years of the project on pain management. Multiple regulatory status and guidelines for pain management from the Joint Commission on Accreditation of Health Care Organizations (JCAHO), American College of Emergency Physicians (ACEP), and the American Pain Society (APS). Physicians continue the struggle to terminate “oligo analgesia” in the emergency department.

Motov & Khan (2009) said that the most shared and pressing issue of pain management in the emergency department is the under-treatment of pain, known as “oligo analgesia.” A review of literature highlighted the following causes of oligo analgesia in the ED: the failure to acknowledge pain, inability to assess initial illness, inability to have pain management guidelines in the emergency department, failure to document pain and to evaluate treatment adequacy, and incapacity to meet patient’s expectations regarding pain management.

Other authors like Goodacre & Roden (1996) point out failure to implement pain management guidelines and protocols in the emergency department. These two authors showed that introduction of the pain protocols in the emergency room reduced the percentage of patients with inadequate analgesia from 91% to 69% and increased the use of intravenous analgesia, from 9% to 37%.



A retrospective chart analysis by Somers, Beckett, Sedgwick & Hulbert (2001) evaluated 262 children and showed that implementation of a pain protocol notably improved the number of children who received analgesia within 30 minutes of triage. A project by Curtis, Henriques, Fanciullo, Reynolds & Suber (2007) explored the effect of protocol-driven pain management on time to the start of analgesia among trauma patients. The results showed that introduction of the protocol led to a decrease in the meantime to initiation of analgesia from 53.60 minutes to 27.93 minutes ( $p = 0.001$ ). The percentage of patients receiving analgesia within the first 30 minutes of arrival increased from 44.4% to 74.6% ( $p 0.001$ ).

In 2000, Chisholm, Collison, Nelson & Cordell (2000) conducted an observational project in three different emergency department evaluating the numbers of intermission and break-in tasks that take place in the emergency department. The results showed a total of 20 breaks and 30 interruptions emergency doctors labored with a pressured them to deviate from their current activities. In 2006, Hwang, Richardson, Sonya & Morrison (2006), in a retrospective review of the emergency department records, evaluated the effect of emergency department crowding on assessment and treatment of pain in older adults with hip fractures. Results showed that mean time for pain evaluation was 40 minutes, and for treatment 141 minutes, the average delay for therapy was 122 minutes. In another project, Pines and Hollander (2007) performed a retrospective cohort project evaluating the impact of the emergency department crowding on delays in treatment and non-treatment for patients with severe pain. Results showed

that 59 % experienced a postponement since triage, 49% of the patients received pain treatment, and 20% experienced delays from time of room placement.

Fosnocht & Swanson (2007) designed a project, which evaluated the ability of a triage pain protocol to improve frequency and time for analgesia delivery to musculoskeletal injuries in the ER. According to authors, the time for medication administration was reduced from 76 minutes to 40 minutes after protocol implementation. The number of patients taking analgesia increased from 45% to 70%. In 2000, Beel, Mitchiner, Frederiksen & McCormick (2000) evaluated the number of patients presenting with acute fractures who wanted pain medication given in the emergency department. Eighty-eight percent of the patients requested to have pain medication in the emergency department, and 77% received it.

The results obtained confirmed that multiple health events in the emergency department affect the performance and working capacity of nurses. Meaning that emergency department hallways overflow impeded for nurses to work responsibly. The nursing professional faces significant challenges in the emergency department. Physical exhaustion due to the high volume of patients affects critical judgment when the nurse handles patients with pain. The overcrowding in the emergency department limits resources and nurse performance thus jeopardizing patients' lives. Emergency department overload can cause errors at the time of the care of patients. For example, the complexity of patients in an emergency department that is overcrowded doubles the risk of medication error.

The factors that may disturb the functions of the nursing profession in the emergency department are environmental, cultural, and social influences, which substantially determine the intensity of the pain in the emergency department. Although different standard tools to evaluate pain were put in to practice as much as possible with every patient in an overcrowded emergency department, the overflow of patients in hallways represented a negative impact on patients and nurses. Although nurses possess a high level of knowledge about pain, they found it a challenge to employ it as they should. Because the time to spend with each patient in an overcrowded emergency department was limited, nurses with a high workload could make mistakes in the pain management offered to acute and chronically ill patients in a crowded emergency department. In addition, patient individualization was a priority in the overcrowded emergency department as efficient management of severe pain according to the institution protocol guidelines that contributed to effective pain management in a packed emergency room.

### **Recommendations**

The body of literature in aggregate strongly advises that emergency department crowding was related to poorer performance and adverse clinical outcomes, including mortality. A further project is needed to grasp the mechanism through which overcrowding adversely affect patient care. Addressing policies is essential to adapt to emergency care system in the fluctuation of inputs for better care that translates into outcomes that are more suitable for patients visiting the emergency department. For this reason, the following Clinical Practice Guidelines are recommended to improve patient outcomes, staff retention and the overall problems found in an emergency department

with overcrowding. These guidelines can be divided into two sections: organizational policy changes and stakeholder policy changes. Within the organizational policy changes, the most important aspect is that increasing organizational commitment helps address emergency department issues in a timely fashion. To accomplish this, it is recommended that the hospital make staffing changes by recruiting more nurses to have an even nurse-patient ratio will provide the appropriate number of nursing staff to deliver quality care safely and will lead to improving patient result and more magnificent nurse achievement, which, in turn, results in increased staff retention. Having more nurses in the ER can evenly distribute the load of patients. Nurses can work at a reasonable pace and have the appropriate time to make critical decisions. Nurse retention of qualified nurses and personnel to emergency care settings is essential; therefore, the use of incentives and recognition is recommendable. Creating time management strategies for the staff will allow an improvement patient care by adhering to pain medication algorithms can accelerate pain management decisions thus shortening the medication-waiting period.

Stakeholders policy changes include a need for them to evaluate emergency department overcrowding and hold internal and external departments accountable to resolve patient flow issues while supporting emergency departments in their mission to provide quality care. The department overcrowding and diversion is a symptom of a failing health care system structure and not caused by emergency department dysfunction. Health care leaders must give budgetary resources that support quality leadership, education, and state of the art technology in the emergency department to enable emergency practitioners to focus on patient care without the nonclinical

distractions that can prevent positive patient experiences and outcomes. A change in the continuing practice of determining emergency department nurse staffing based on financial productivity measures. Future researchers where variables linked to the topic of overcrowded Emergencies Department are essential. Suggestions for future studies were visioned for the reagents instrument so that they could facilitate their response and reduce the time required for the administration of the reagent. Emergency Care Department was a sensitive health-care area. The sensitivity was due to a combination of factors such as urgency and crowding. The urgent need of care resulted from a blending of physical and psychological distress. Which appears unexpected, agonizing and at times life-threatening condition that forced the patient to seek treatment at the emergency department (Aacharya, Gastmans & Denier, 2011). A more complete study of the guidelines suggested to resolve the issues present in an overcrowded emergency department can be found on Appendix D.

Emergency department overcrowding was harmful to patients and nursing staff alike, emergency nurses adapted to their environment and developed methods to deal with the workload issues associated with overpopulation. The delivery of patient-focused quality care within the Emergency Department was necessary; it was essential that nurses got involved in decision-making processes regarding the acute patient journey (Finlayson, 2010). To create health care environments that maintain qualified nurses the importance of professional achievement must be recognized (Finlayson, 2010). While elements of nursing proceeding were interdependent in other disciplines such as medicine, state boards of nursing made clinically, and managerial decisions regarding

nursing care independently license nurses. An emergency nurse is legally and professionally responsible for determining that the orders for patient care be appropriate before implementation (Emergency Nurses Association, 2001). Collaboration is key the emergency department and practitioners must increase collaboration to influence policymaking. It is advised that emergency nurses and physicians must take a lead role in educating and advocating for their work environment as well as other approaches that will improve patient care. They must simultaneously get more involved in hospital committees, social and professional organizations, media campaigns, and public policy initiatives to implement change. Physician and nursing organizations should participate together in professional activities and should integrate ideas and values to create new policies. Seeking endorsement after one organization or discipline have developed disrespect and decrease the likelihood of forming a collegial alliance.

### **Strength and Limitations**

A robust literature review was one of the significant depth of the project it helped identify the imminent need for further projects on the subject. Despite the relevance of the data obtained in this project, it had some limitations. Limitations of the project were identified and accepted by me to reduce and decreased them in future related studies. In this case, the sample could not be representative due to its limited size. Only ten nurses from the Emergency Department participated. Concerning the instrument of data collection, its administration required 30 minutes to provide the answers, which could imply that they were very extensive.

## Section 5: Dissemination Plan

### **Introduction**

With this project, I expect to draw attention from stakeholders and politicians to the problems caused by overcrowded ERs in Puerto Rican hospitals. Because of overcrowding in emergency rooms and its relationship with pain management, Sprivulis, DaSilva, Jacobs, Frazer, & Jelinek (2006) point out that crowding in emergency departments nationally and worldwide has influenced the quality of patient care. Increased patient mortality, length of hospital stay, medication errors, pain, and other deleterious effects caused by overcrowding in ERs continue to be documented (Bernstein, Verghese, Leung, Lunney & Perez, 2003).

Dissemination of results was through a conference presentation before stakeholders, supervisors, and ED nurses of the project site. Other means of disseminating information about findings were handouts that contained concise statistical information that facilitated the audience a better understanding and a closer glance at the presentation shown on the projector. In addition, the Puerto Rican nursing journal *Impulso* will be another way of disseminating findings. Puerto Rican nurses have complete access to the project, which gives them the opportunity to use it for further study.

### **Social Change Implications**

The positive social change implication of this project is the potential for those in the Puerto Rican hospital system structure along with political figures who represent the health system to join forces to devise solutions that bring forth positive outcomes such as

less waiting time in EDs for patients who arrive with pain. Motov & Khan (2009) pointed out that one of the crucial factors in managing pain in the emergency department is to meet patients' needs and to satisfy their expectations. Emergency department patients are optimistic about pain relief, much more significant than those with postoperative pain do (Motov & Khan, 2009). Fosnocht & Swanson (2007) found that most emergency department patients expect an average pain relief of 72% while approximately 18% of patients hoped for 100% pain relief. Emergency department staff anticipate providing patients pain relief as soon as possible after arrival. The mean expectation for administration time of analgesia in the emergency department at the practicum site was 23 minutes, compared with the actual mean time to analgesic administration of 78 minutes (Fosnocht, Heaps & Swanson, 2004). In a survey of sixty-eight fast-track patients, Blank, Mader, Wolfe, Keyes, Kirschner & Provost (2001) showed that 60% of patients were sent home with more pain than they were willing to accept. Blank et al. reported that 51% of the patients were given something for pain. However, only half of them said they experienced pain relief (Blank et al., 2001). Similarly, in their study, Fosnocht et al. (2004) reported that 45% of ED patients in pain received pain medication, though 70% announced that their needs for pain relief concluded at discharge.

### **Analysis of Self**

Being part of the DNP doctorate project program at Walden University was challenging. I faced all kinds of emotions during the journey. Fortunately, I had the necessary family support to withstand the demands the program required. In addition, my mentor guided me toward success. I found the practicum to be another challenging and



rewarding experience that solidified my leadership skills. Moreover, the practicum opportunity allowed me to sit with hospital stakeholders and the health representative for the island of Puerto Rico to present recommendations for improving emergency department overcrowding. The DNP doctorate program not only taught me to translate knowledge into practice but also to be an agent of positive social change.

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## Appendix A: Analysis of Reagents

|   | Distribution frequency (f) |          |           |       | Percentage |          |           |
|---|----------------------------|----------|-----------|-------|------------|----------|-----------|
|   | Agree                      | Disagree | Undecided | Total | Agree      | Disagree | Undecided |
| <b>Premise 1:</b> The multiple health events in the Emergency Department affects the performance and working capacity of nurses   | 9                          | 1        | 0         | 10    | 90%        | 10%      | 0%        |
| <b>Premise 2:</b> Emergency Department hallways overflow is an impediment for nurses to work responsibly  | 9                          | 1        | 0         | 10    | 90%        | 10%      | 0%        |
| <b>Premise 3:</b> Physical exhaustion due to the high volume of patients affects critical judgment when the nurse handles patients with pain                                    | 8                          | 1        | 1         | 10    | 80%        | 10%      | 10%       |
| <b>Premise 4:</b> Institution protocol guidelines contribute to an effective pain management in an overcrowded ER   | 9                          | 1        | 0         | 10    | 90%        | 10%      | 0%        |
| <b>Premise 5:</b> Overcrowding in the emergency room limits resources and nurse performance thus jeopardizing patients' lives   | 9                          | 1        | 0         | 10    | 90%        | 10%      | 0%        |
| <b>Premise 6:</b> The complexity of patients in an ER that is overcrowded doubles the risk of medication error  | 9                          | 1        | 0         | 10    | 90%        | 10%      | 0%        |
| <b>Premise 7:</b> Environmental, cultural, and social influences greatly determine the intensity of the pain in the ER  | 8                          | 1        | 1         | 10    | 80%        | 10%      | 10%       |
| <b>Premise 8:</b> Different standard tools to evaluate pain are used with every patient in an overcrowded ER  | 10                         | 0        | 0         | 10    | 100%       | 0%       | 0%        |
| <b>Premise 9:</b> The overflow of patients in hallways represents a negative impact on both the patient and nurses  | 9                          | 1        | 0         | 10    | 90%        | 10%      | 0%        |
| <b>Premise 10:</b> Nurses with a high level of knowledge about pain cannot employ it as they should because the time to spend with each patient on an overcrowded ER is limited | 8                          | 2        | 0         | 10    | 80%        | 20%      | 0%        |
| <b>Premise 11:</b> Patient individualization is always taken into consideration in the overcrowded ER as efficient management of acute pain                                     | 5                          | 2        | 3         | 10    | 50%        | 20%      | 30%       |
| <b>Premise 12:</b> Nurses with a high workload could make mistakes in the pain management offered to acute and chronically ill patients in an overcrowded ER                    | 8                          | 1        | 1         | 10    | 80%        | 10%      | 10%       |

## Appendix B: Questionnaire

## Questionnaire: An Examination of the Relationship Between Nursing Pain Management and an Emergency Room with Hallway overflow

Zaida Ruiz (2016)

Control #: \_\_\_\_\_

Introduction: Next, you will find a questionnaire composed of two parts. The first one collects the socio-demographic data of the participants. The second part is questions related to An Examination of the Relationship Between Nursing Pain Management and an Emergency Room with Hallway Overflow. Your participation is anonymous. Remember that all answers are confidential and will remain anonymous during and after completion of the project and kept for five years under lock and key. After this time is over, the permanent elimination of the questionnaire will be thru a shredder.

Instructions: Read carefully and mark with an X the alternative that best describes your point of view.

**Part I: Socio-Demographic Data**

## 1. Gender

- Female  
 Masculine

## 2. Age

- 21 to 30  
 31 to 40  
 41 to 50  
 51 to more

## 3. Civil Status

- Single  
 Married  
 Widow  
 Other, Specify

## 4- Time working in the Emergency Room

- 1 to 2 years  
 3 to 4 years  
 5 years or more

## 5- Level of Profession

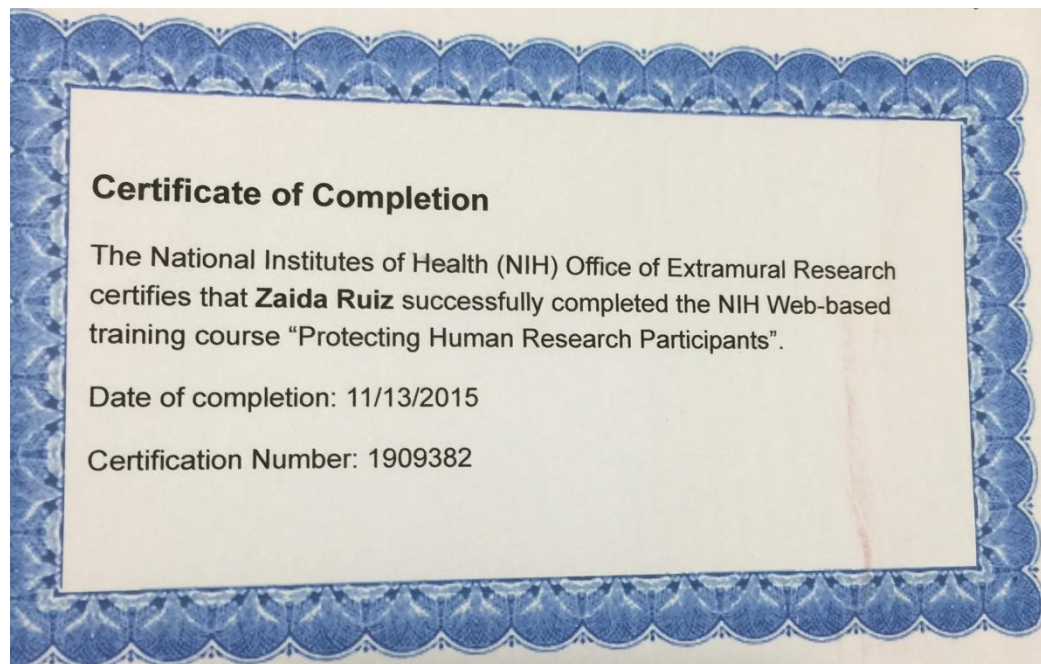
- BSN  
 MSN  
 PhD/DNP  
 Other, Specify

## Part II: Pain Management factors in an overcrowded Emergency Room

|   | Agree<br>(3) | Undecided<br>(2) | Disagree<br>(1) |
|---|--------------|------------------|-----------------|
| 1. The multiple health events in the Emergency Department affects the performance and working capacity of nurses.   |              |                  |                 |
| 2. Emergency Department hallways overflow impedes nurses to work responsibly.   |              |                  |                 |
| 3. Physical exhaustion due to the high volume of patients affects critical judgment when the nurse handles patients with pain.  |              |                  |                 |
| 4. Institution protocol guidelines contribute to effective pain management in an overcrowded emergency room.  |              |                  |                 |
| 5. Overcrowding in the emergency room limits resources and nurse performance thus jeopardizing patients' lives .  |              |                  |                 |
| 6. The complexity of patients in an Emergency Department that is overcrowded doubles the risk of medication error.  |              |                  |                 |
| 7. Environmental, cultural, and social influences greatly determine the intensity of the pain in the Emergency Department.  |              |                  |                 |
| 8. Different Standard tools to evaluate pain are used with every patient in an overcrowded Emergency Department.  |              |                  |                 |
| 9. The overflow of patients in hallways represents a negative impact on both the patient and nurses.  |              |                  |                 |
| 10. Nurses with a high level of knowledge about pain cannot employ it as they should because the time to spend with each patient in an overcrowded Emergency Room is limited. |              |                  |                 |
| 11. Patient individualization is always taken into consideration in the overcrowded Emergency Department as efficient management of acute pain.                               |              |                  |                 |
| 12. Nurses with a high workload could make mistakes in the pain management offered to acute and chronically ill patients in an overcrowded Emergency Room.                    |              |                  |                 |

Appendix C: Certificate of Completion of Protecting Human Research Participants

Training



Appendix D: Guidelines for Nursing Pain Management in a Puerto Rican Emergency  
Room with Hallway Overflow

### **Introduction**

Pain is the main reason for consultation in the emergency department. The literature indicates that patients in emergency departments around the world do not always receive optimal pain management care (see Castillo, Gálvez, & García, 2012). This literature is consistent with the practicum site observations used for this project. The following document provides a short set of guidelines to improve established pain management protocols in the Emergency Department based on an overcrowded setting such as that found in the practicum site.

### **Guidelines for Pain Management**

#### **I. Organizational Policy Changes**

##### **A. Staffing Changes**

- i. Recruit more nurses to have an even nurse-patient ratio. This will provide the appropriate number of nursing staff to deliver quality care safely and will lead to improving patient result and better nurse achievement, which, in turn, results in increased staff retention. Allowing nurses students to participate in the care of the patient can be helpful for nurses and can help students built their work experience.
- ii. Continuously educate staff on time management process as well as how to manage patients in an overcrowded setting.
- iii. Create policies that allow for longer break times for staff to prevent exhaustion.



- iv. Recruit other staff to help manage patient loads such as Certified Nursing Assistants and Associate Nurses.
- v. Review existing policies or create new policies regarding benefits packages and incentives to increase staff satisfaction and retention. as retention of qualified nurses and personnel to emergency care settings is essential to manage the issues within the department. The use of incentives and recognition is recommendable to help boost morale among the staff.
- vi. Train security personnel of emergency departments to understand that violent patients most of the time are presenting a pain response, and they should exercise their intervention with care while providing safety for patients, visitors, and staff (Robinson, Jagim & Carl, 2004).

#### B. Time Management Scheduling

- i. Adhering to pain medication algorithms can accelerate pain management decisions thus shortening the medication-waiting period. However, pain evaluation (Pain Scale) should precede medication administration.
- ii. Create pain management schedules for all patients on pain medication in the emergency room that includes correct medication ordered, dosage and route as well as the time interval that it is to be given and most importantly the last time given to the patient. It

would be advisable to use a whiteboard in the nurses' station where each schedule can be written, altered and erased as needed.

1. Create and adhere to a policy that dictates how often the schedule should be reviewed by the staff. Half an hour interval are recommended. However, this should be reviewed by the department to ascertain feasibility.
- iii. Educate nurses on time management procedure to help them learn how to work at a reasonable pace and have the appropriate time to make critical decisions.

#### C. Patient Management

- i. Triage patients and separate them based on the pain management needs of everyone.
- ii. Group each patient with similar schedules together in sections of the schedule to better serve each need and make the administration of medications smoother.
- iii. Reevaluate patient needs constantly to ascertain the continued need for pain management.
- iv. Evaluate departmental resources and policies to address issues of moving and lifting patients and equipment that exceed recommended workloads for one individual to prevent injury and exhaustion among the staff.

#### D. Overcrowding Management

- i. Establish an urgent care facility near or adjacent to the emergency department.
- ii. Educate the community about the proper use of emergency services and urge them to make use of the urgent care facility for their needs.
- iii. Triage patients to determine true need for Emergency Room services and transfer those patients not in need of ER services to urgent care if possible.
- iv. Reevaluate patients for admission or discharge from the emergency department constantly, according to the needs of the patient to prevent and manage overcrowding in the department.
- v. Establish policies to transfer patients admitted into the hospital in a timely manner with all necessary documentation sent with the patient or before sending the patient to other departments.
- vi. Increase bed capacity in emergency departments as this somewhat helps the Emergency Department hallway overflow but is not the solution for lack of more significant internal resources.
- vii. Increase triage area and staff in order to evaluate arriving patients quicker and decrease wait times.
- viii. Review existing policies or create policies to triage arriving patients based on needs.

- ix. Develop methods to deal with the workload issues associated with overpopulation.

#### E. Interprofessional Relationships

- i. Health care systems must encourage direct dialogue among physicians and nurses to ensure proper and accurate communications of patient-related information (Robinson, Jagim & Carl, 2004). The hospital administration must encourage constructive, productive, and safer work environments.
- ii. Educate staff on strategies for better interprofessional communication.
- iii. Create and encourage open communication among the staff.
- iv. Staff Involvement in Policy Making
  - i. Encourage emergency nurses and physicians to take a lead role in educating and advocating for their work environment as well as other approaches that will improve patient care. They must simultaneously get involved
  - ii. deeper in hospital committees, social and professional organizations, media campaigns, and public policy initiatives to implement change.
  - iii. Involve staff in the decision-making process regarding changes in work environment.
  - iv. Encourage staff to voice suggestions regarding changes in policy within the organization.

## II. Stakeholder Policy Changes

### A. Political and Organizational Changes

- i. Stakeholders emergency department evaluations and hold internal and external departments accountable to resolve patient flow issues while supporting emergency departments in their mission to provide quality care.
- ii. Budgetary resources that support quality leadership, education, and state of the art technology in the emergency department to enable emergency practitioners to focus on patient care without the nonclinical distractions that can prevent positive patient experiences and outcomes.
- iii. System structure along with politicians should continue meeting to find optimum solutions for the ED overcrowded phenomena.
- iv. Physician and nursing organizations should participate together in professional activities and should integrate ideas and values to create new policies. Seeking endorsement after one organization or discipline have developed disrespect and decrease the likelihood of forming a collegial alliance.