

ORIGINAL ARTICLE

## How Healthcare Providers Manage Intensive Care Patients' Stressors?

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ABSTRACT

**Background:** This manuscript reports the qualitative findings of a mixed methods research study conducted in December.2012. This manuscript focus on describing how health care providers managed their patient's stressors in the intensive care units (ICU). Approximately 4.4 million patients require intensive care unit (ICU) treatment annually in the United States (National Quality Measures Clearing House, 2012).No specific protocol is present to guide the health care providers in managing their ICU patients' stressors. There is a need to investigate how health care providers manage their patients stress.

**Methods:** Mixed methods research design was used. Phenomenological approach was used for the qualitative section. The sample included 70 ICU health care providers. The researcher developed a paper based tool that asked participants about their demographic data, and asked open ended questions investigated how health care providers managed their patient's stressors. Consent forms were signed voluntarily by all participants; all ethical considerations were guaranteed in this study. This study was conducted in one of the large hospitals in southern California that have 46 ICU beds

**Results:** Health care providers reported that they manage their ICU patient's stressors by implementing four themes of practice: Communication, pain management, encouraging the presence of family, and environmental control. Those were the major strategies in health care providers' management of patients' stressors.

**Conclusion:** ICU staff can manipulate the ICU environment to be less stressful; the findings of this study could guide the development of ICU patients stress management protocol.

**Keywords:** *Healthcare providers; Management; Patient's stress; Intensive Care Units.*

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## Background

The purpose of this article is to present the qualitative findings of a larger study conducted to investigate patients' and health care providers' perceptions of stressors in the intensive care units (ICU). This article focuses on how health care providers reported their current practices of managing their ICU patients' stressors.

Approximately 4.4 million patients require intensive care unit (ICU) treatment annually in the United States (National Quality Measures Clearing House, 2012). When patients are admitted to the intensive care units, they will be connected to wires and tubes, have multiple intravenous accesses, and have frequent physical exam by nurse or physician, lights on all time, and lack of privacy all contribute to a stressful setting.

Before 1970, the word "stress" was used as a scientific term representing the force which causes strain in physical materials. Selye (1976) was one of the pioneers who used the term "stress" in a modern sense. In his book "The Stress of Life" Selye defined stress as "a response to an unpleasant situation, and an adaptive response of the body to any demand placed upon it" (Selye, 1976).

Stress is also defined as "the process in which environmental demands tax or exceed the adaptive capacity of an organism, resulting in psychological and biological changes that may place persons at risk for disease" (Cohen, Kessler & Gordon, 1995). Stressors are defined as stimuli that may result in a stress response, whether social, psychological, physiologic, or biologic in origin. Page & Lindsey (2003) defined the stress response as "a normal and adaptive response to perceived or real threats to an individual's state of physiologic homeostasis" (Page & Lindsey, 2003).

Eustress is a positive type of stress that forces us to advance and achieve life goals. Distress, on the other hand, is a negative form of stress that can cause adverse psychological effects like anxiety and disorganized thought processes. Negative physical effects of stress may include increased blood pressure, migraine, lack of concentration, fatigue, difficulty falling or staying asleep, stroke, or heart attack. Stress leads to 75-90% of all doctors' visits, 43% of all adults experience adverse health effects due to stress which is linked to six of the leading causes of death in the United States including heart disease, cancer, and suicide.

## Significance

Stress elevates levels of adrenaline and cortisol in the body, leading to elevated blood pressure, heart rate, and respiration for a healthy individual, the fight or flight response to stress helps us cope with the stressor. However, ICU patients are critically ill and may not be able to withstand the effects of stress, this may lead to deterioration in their condition or delay their recovery. Dowdy and colleagues (2005) conducted a systematic literature review related to quality of life in adult survivors of critical illness. They found that ICU patients survivors reported lower quality of life than members of the general public. Quality of life in ICU survivors improves over time, but remains lower than that of the general population (Dowdy, Eid, Sedrakyan, Méndez-Tellez, Pronovost, Herridge & Needham, 2005).

Controlling patients' stressors may decrease the physiological and psychosocial effects of an ICU stay, possibly preventing disease complications and decreasing the length of stay in the hospital. ICU staff may be able to manipulate the ICU environment to decrease stress, provide a less stressful and healing setting for patients and their families.

Prior studies, including Yava, Tosun, Unver, & Cicek (2011); & Cornock (1998) have investigated patients' and health care providers' perceptions of ICU patients' stressors. Results indicated that ICU patients perceived lower levels of stress than ascribed to them by ICU nurses. Nurses tended to overestimate ICU patients stressors by almost double, the same trend of stress perception was found in several studies that were conducted in several different cultures.

Similarly, the quantitative findings of the first section of this research study indicated that health care providers' perceptions of their patients' stressors were significantly higher ( $n=70$ , mean stress score=134.07) than patients' perceptions ( $n=64$ , mean stress score=79.78) (Abuatiq, Burkard, & Clark, 2013). In the course of that study, health care providers were asked to describe how they managed their ICU patients' stressors. This article presents those qualitative findings.

## Literature Review

Despite research on the psychological and

physiological effects of stress, little is known about health care providers' practices for managing patients' stress. Avey and colleagues (2003) assessed health care providers' perceptions, training, and practices regarding stress and health outcomes. Nearly half (42%) of their 151 participants reported receiving no education on stress reduction in their professional training. Most (90%) of the participants believed stress management was "very" or "somewhat" effective in improving health outcomes, only slightly more than half of them discussed stress management with their patients. Participants indicated counselling patients about smoking, nutrition, or exercise was more important than stress counselling. Most (76%) lacked confidence in their ability to counsel patients about stress. The authors recommended a "curriculum reform that emphasizes new knowledge about stress and disease, new skills in stress reduction, and more positive beliefs about mind and body medicine and its integration into the existing health care structure." (Avey, Matheny, Robbins, & Jacobson, 2003).

The hospital environment and particularly the intensive care unit (ICU) causes stress for the patient and his/her family. One study was conducted by Khalifezadeh and colleagues in (2011), found that the experimental patients group who received stress reduction care such as reassurance, emotional support, effective communication, and allowing family to stay in bed side had less irritability and delirium severity than the control group that received usual care. The researchers concluded that nursing interventions could effectively reduce delirium related to ICU stress (Khalifezadeh, Safazadeh, Merhrabi, & Mansour, 2011).

Boye and associates (2011) conducted a randomized controlled study to investigate the effects of stress management psychotherapy in patients with ulcerative colitis and Crohn's disease. They concluded that the intervention did not improve the course of the disease, but might improve patients' quality of life (Boye, Lundin, Jantschek, Leganger, Mogleby, Tangen, Jantschek, Pripp, Wojniusz, Dahlstroem, Rivenes, Benninghoven, Hausken, Roseth, Kunzendorf, Wilhelmsen, Sharpe, Blomhoff, Malt, Jahnsen, 2011).

Another study assessed the effects of a stress management intervention on the psychophysiological response to stress in patients with rheumatoid arthritis. The authors found that levels of stress-induced tension and cortisol were significantly lower in the intervention group, and concluded a relatively short stress manage-

ment interventions could improve psychological functioning and decrease stress responses in patients with rheumatoid arthritis (De Brouwer, Kraaimaat, Sweep, Donders, Eijsbouts, 2011).

Similarly, a meditation-based stress management intervention reduced depression and perceived stress in patients at risk for or diagnosed with coronary heart disease (Olivoa, Dodson-Lavellea, Wrena, Fang, & Oz, 2009)

Family-focused interventions have also been helpful in reducing stress. Stress is a subjective experience that is translated mainly by verbalizing the stressful experience. ICU patients may not be able to communicate their needs or stressors due to intubation and the effect of sedative medications. The presence of family member at the bedside can help translate their patient's needs. For example, the use of augmentative and alternative communication strategies by family members in the intensive care unit can help in stress assessment. The objectives of Slatore and colleagues (2012) study were to "To identify which augmentative and alternative communication tools families use with nonspeaking intensive care patients, and how they are used, and what families and nurses say about communication of family members with nonspeaking intensive care patients" (Slatore, Hansen, Ganzini, Press, Molly, Osborne, Chesnutt, & Mularski, 2012). The results of their qualitative analysis showed that "family involvement in augmentative and alternative communication tools was evident in 44% of participants". Accurate assessment by health care providers for these ICU patients can reflect patient's communication potential and facilitate the use of alternative communication tools for patients and their families.

Although some research has been conducted on the use of specific interventions to reduce stress in ICU patients, there have been no studies examining the types of strategies typically used by ICU health care providers to relieve their patient's stress. This qualitative study was designed to identify the current interventions used by staff to minimize their patients stress.

### **Data Collection Methods**

Institutional review board (IRB) approval to conduct the study was obtained from the targeted hospital. Staff members who agreed to participate in the larger study completed an Environmental Stressor Questionnaire, as well as a demographic form that elicited data

related to job title, years of experience, gender, age, ethnicity, and education. The demographic form also included an open ended question on how providers managed patients' stress.

A convenience sample of 70 health care providers participated in the larger study of staff perceptions of ICU patients' stressors; however, only 64 staff responded to the open ended question on how they addressed patients' stress. Participants returned completed forms in person to the researcher or placed them in a designated folder on the unit. All collected questionnaires were filed anonymously.

#### **Data Analysis methods**

Narrative answers to the open ended questions were entered in a Microsoft document and then imported into Atlas-TI qualitative analysis software. The narrative answers provided by participants were coded; all words that reflect the same intervention were given a code that reflects the broader scope of practice. In the same time, repetitive words were counted and coded to form a reflective category.

#### **Findings**

A total of (64) narrative answers were collected. Respondents included 48 registered nurses, 8 respiratory therapists, 7 associate health care providers (clinical nurse assistance) and 1 dietitian. Inductive analysis of participants' narrative answers produced four major categories of intervention related to practices used to manage ICU patients' stressor, as depicted in Figure 1.

#### **Pain Management**

Pain assessment and management was mentioned by 17 out of 64 participants (26.4%) as an intervention to decrease stress. Related interventions primarily included administering pain medications, four participants also reported using anxiety medications to decrease their patients' anxiety.

As reported by one participant, "I try to anticipate their needs; this represents a challenge in that most ICU patients are sedated so we have to assess needs such as pain, dry mouth, etc, from physiological and behavioural cues rather than just being able to ask the patient". Another respondent wrote of the need to

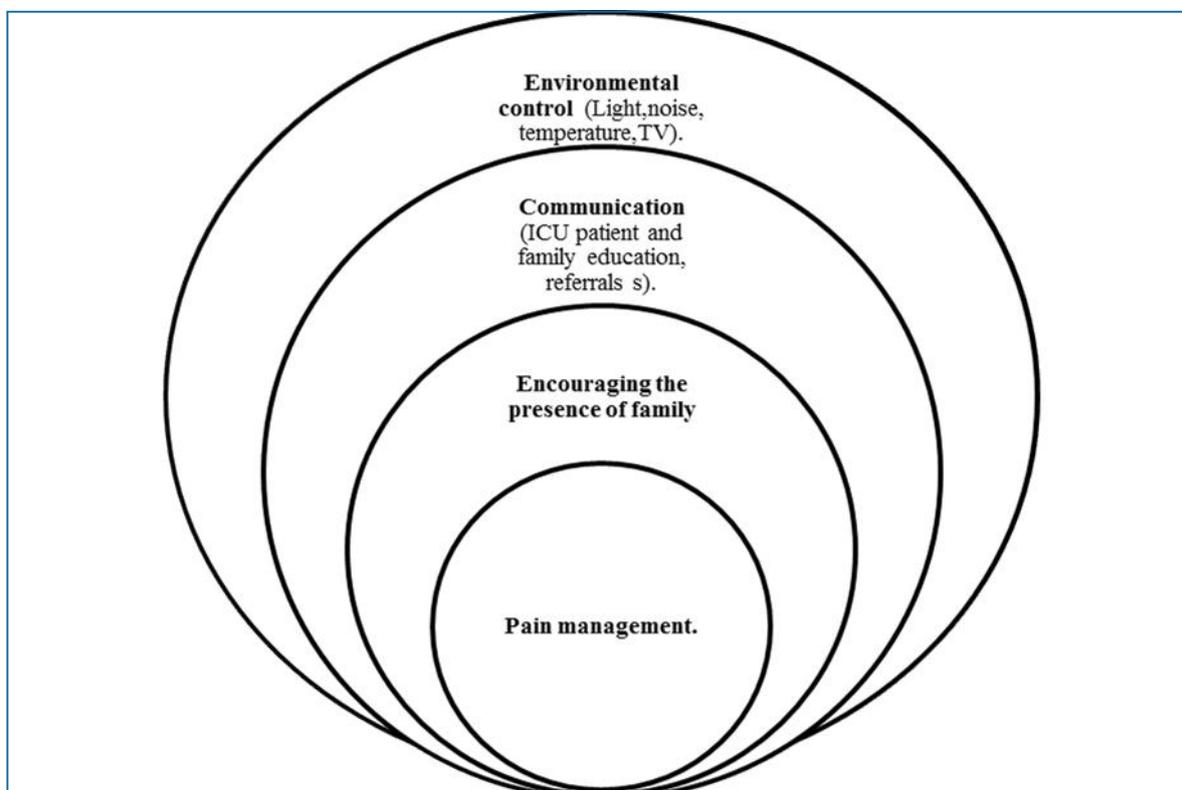


Figure 1. Major Categories of ICU Patients' Stress Management

“understand that patients may perceive some interventions as being painful and respond appropriately to their needs.” Still other participants reported using “aggressive comfort measures, pillows, positioning, pain medications, potty” and providing “a positive attitude, soothing touch and voice, plus keeping pain under control”

The narrative answers showed that nurses perceived pain management as one of the measures to control ICU patients' stress. The narrative answers did not reflect in details which pain management protocol they used. In the quantitative findings of this study, patients reported “having pain” as the major stressors, health care providers also reported “being in pain” as the most stressful item for ICU patients (Abuatiq, Burkhardt, & Clark, 2013). More effective pain management may be required since patients are still rating “being in pain” as the major stressor in the ICU.

### **Encouraging the Presence of Family**

The word family was mentioned in 17 of the 64 narrative responses. Critical care nurses encouraged family presence near their critically ill patients; they informed families about the plan of care and kept them updated about their patient's progress. Participants also reported educating patients about the plan of care. As noted by one participant, “I encourage family involvement in all aspects of care; and keep patient and family updated at all times”. Another respondent reported providing “time to converse with them to build a health rapport”, and another staff encouraged the ‘family involvement for emotional support.”

This intervention, encouraging family to be near their ICU patients may have a significant effect on reducing ICU patients' stressors. This finding is supported by the quantitative findings of this study that patients' total stress scores were significantly lower when they had a family member present with them during their illness ( $P=0.001$ ) (Abuatiq, Burkard, & Clark, 2013).

### **Communication:**

Communication is important in assessing and managing ICU patients' stressors. The word “communication” word was used in five narratives, “explain” in 16 narratives, and “talk” in 11. Other words related to communication strategies were “ask” (6) and “tell” (2). All indicated communication and were in-

cluded in some form in approximately two thirds of the narratives.

Some of the actual responses included “ I talk to them even when sedated / ventilator dependent” And [I help manage stress] by talking to them and explaining why they are here and the reason/ need of everything we are doing to them.” Another participant emphasized, “I use communication as my number one tool”, while another stated “I believe a reassuring voice and knowing what to expect can help relieve stressors.”

Still another respondent reported engaging in “therapeutic communication with patient and family members, keeping patient[s] informed of their conditions and plan of care.” One participant went beyond keeping patients and families informed and noted that “giving the patient choices, options, and authority in their care can relieve stress. Along with that goes communication, being open honest and reliable.” Another ICU staff described the importance of language in communicating with clients and families, “I always try to explain things to them in simple terms. I try not to use medical terminology; I feel this only makes them more confused. I also try to engage them in normal conversation in order to ease their stress”.

Participants reported listening to their patients concerns, assessing their stressors, and clarifying information with patients and their families. Participants also reported explaining the plan of care and educating patients about any procedures. Participants also reflected the use of appropriate humour when they communicated with their patients.

ICU health care providers also communicate among themselves to provide holistic care and reduce patients' stressors. Each staff member controls stressors within their scope of practice, and if intervention is beyond their scope, they refer the patient to the appropriate health care provider. For example, one respiratory therapist participant reported, “I work with the patient breathing to make them more comfortable, give breathing treatments PRN. [I] talk to the patient to see what is causing stress. [I] mention observations/ patient comments to their RN if it is something they can do that is beyond my scope of practice. “Similarly, a dietitian reported: “I try to go into the room when I notice the patient is stressed and either find out what is bothering them or I get them assistance”.

Nurses spend more time in one-to-one care for

ICU patients, which make them the main health care providers who assess and manage stressors. Nurses reported utilizing available resources to decrease patients' stressors, for example, referring patients to social workers, speech therapists, chaplains, and dieticians. One nurse wrote, "[I] utilize resources [like] pastoral care, social worker, and dietician, to assist with questions and meet patient needs". Another also mentioned referring patients to other sources to address areas of concern or stress, for example to social workers for financial concerns.

### **Environmental Control**

The fourth category of stress management strategies described by the ICU staff addressed control of the ICU environment. Eleven of 64 participants reported that they manipulate the ICU bed side environment to be less stressful for ICU patients. Specific interventions included reducing noise, controlling lights and room temperature, not disturbing their sleep, and using pillows for support and repositioning patients.

RN1: "In verbal patients, provide an environment that fosters open candid conversation so that needs can be addressed".

RN 12: "Educating patient to ICU environment, Keeping a calm and soothing environment low lights and low volume, trying not to disrupt sleep / rest".

RN 26: "Provide a calm environment"

RN 54: "Environmental control calm quite minimizes stimulation".

RN 55: "I also try to control their environment room temperature, noise level, lights ...ect, I like to pretend I am the patient and think of what they may need".

RN 60: "adjusting the environmental surroundings like light and temperature can reduce stressors."

Participants reported that they manipulated the ICU environment to decrease patient's stressors. Those interventions included maintaining privacy, reduction of noise, being culturally sensitive, keeping the call light within reach, controlling room temperature, and frequent orientation to the ICU environment when necessary. In addition, three participants reported using music/TV to decrease their patients' stress.

### **Discussion**

Slatore et. al (2012) conducted an ethnographic qualitative study of nurses' communication in the ICU. They found that most communication occurred in the domains of biopsychosocial information exchange, patient as person, and clinician as person. Nurses endorsed the importance of the domains of shared power and responsibility and therapeutic alliance but had relatively few communication interactions in these areas. They also found that "Communication behaviours were strongly influenced by the nurses' roles as translators of information between physicians and patients and the patients' families." (Slatore, Hansen, Ganzini, Press, Molly, Osborne, Chesnutt, & Mularski, 2012). Patient centered care is highly affected by the quality of health care providers' communication in the ICU.

The findings of this study reflected that communication as a major strategy for managing ICU patients' stressors. Participants reported using communication in assessing and managing their patients' stress. Respiratory therapists and dietitians reported that they manage patient's stressors within their scope of practice, and communicate with nurses to manage other patients' stressors. Nurses play a major role in managing ICU patients' stressors; they advocate and refer patients to available support resources.

The literature review reflected that many studies investigated the effects of stress management on a particular disease process. This study reflected the general practices of health care providers in managing ICU patients' stressors, and did not investigate any differences in how staff manages patients' stressors related to specific conditions. However, the quantitative findings of our study reflected that patients with gastrointestinal disease reflected the highest stress level in the ICU suggesting that differential application of strategies based on condition might be warranted.

Pain is a highly subjective experience, ICU patients reported "being in pain" as the major stressor. Nurses also reported "being in pain" as the highest perceived stressor for their ICU patients. This study was conducted in a medical and surgical ICU that did not have a specific pain management team or protocol. Pain is still the patient's major stressor and we recommend more effective ICU patient oriented interventions to reduce this stressor.

Family presence near the critically ill patient is

important in managing their stress, hospitals developed various ICU visit hours policies. According to the American Association of Critical Care Nurses (AACN, 2012) 78% of ICU nurses in adult ICU prefer unrestricted visitors policies; on the other hand, 70% of hospital ICU policies restrict family visitation in the ICU setting. The participants in this study reported that ICU staff encourages family presence at the bedside and they did not report any hospital policy related to visit hours in the ICU.

The AACN (2012) also reported that "Some ICU nurses believe that family visits increase physiologic stress on the patient, and interferes with the provision of care, is mentally exhausting to patients and families, and contributes to increased infection." But no evidence was found to support these beliefs. Instead, they also reported that "flexible visitation decreases patients anxiety, confusion, and agitation, reduces cardiovascular complications, decreases length of ICU stay, makes the patient feel more secure, increases patient satisfaction, and increases quality and safety" (AACN, 2012). The quantitative findings of our study supported the effect of family presence in reducing patients stress. 9 The qualitative theme of encouraging family involvement reflected that health care providers prefer the family presence near their ICU patients in order to manage their stress.

### Recommendations for Practice and Future Research

Based on narrative responses, staff did not have specific guidelines to control ICU patients' stressors, but relied on their own practices in managing stressors. Communication, pain management, encouraging the presence of family, and environmental control were the major strategies in health care providers' management of patients' stressors. Those strategies were effective in decreasing patients' stress, as evidenced by the quantitative findings of this study.

This article aimed to describe current clinical practices in managing ICU patient's stressors. The findings of this study may contribute to the development of standardized protocols to assist ICU staff in managing their ICU patients' stressors.

The findings of this research recommends that future studies should focus on investigating the financial effects on patient's recovery from critical illness, and refine the health care reimbursement system accordingly. There is a need to develop a more effective pain

management protocol for ICU patients based on their medical diagnosis. Further research is needed in this area, followed by testing of specific stress reduction interventions and assessment of their effectiveness.

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