

# Traumatic Stressors in the Intensive Care Unit: Viewpoints of Patients and Nurses

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Received 2016 March 06; Revised 2016 June 18; Accepted 2016 July 09.

## Abstract

**Background:** Treatment in an intensive care unit (ICU) is both stressful and psychologically traumatic for patients. Many mental disorders can arise following traumatic and stressful events, including anxiety, depression, and post-traumatic stress disorder. Studies have investigated nurses' and patients' views on the stressors in a typical intensive care unit. However, there have been inconsistencies in the results of these studies. Moreover, only a limited number of studies have been conducted on this issue in Iran.

**Objectives:** This study aimed to compare patients' and nurses' views of the traumatic stressors inherent in intensive care units.

**Methods:** This cross-sectional study was conducted on 120 patients who were hospitalized in intensive care units, as well as 60 nurses in the intensive care units, in 2014. The study instrument consisted of two parts, namely a demographic questionnaire (age, sex, level of education for nurses, and length of hospitalization for patients) and Cochran and Ganong's modified intensive care unit environmental stressor scale. All the nurses and literate patients answered the questionnaire through self-report. However, illiterate patients were interviewed and their answers were recorded in the questionnaires. The data were analyzed using descriptive statistics and the independent samples t-test.

**Results:** The mean scores of the stressors were  $123.23 \pm 17.81$  and  $125.16 \pm 17.35$  from the nurses' and patients' viewpoints, respectively ( $P > 0.05$ ). A lack of control over urine and stool, fear of death, pain, and having a tube in the mouth or nose were the most important stressors from both the patients' and nurses' viewpoints. Moreover, the mean stressor scores were approximately the same in both groups for the first eight stressors.

**Conclusions:** Nurses and patients had approximately similar views as to the top eight stressors in the average intensive care unit. However, it seems that nurses not only need more training in appraising intensive care unit patients' stressors, but also in how to reduce or eliminate those stressors. Such an approach could be of importance in the provision of high quality care due to reducing stressors and meeting patients' care-related needs in intensive care units. Hence, early intra-ICU clinical psychological intervention may help critically ill trauma patients recover from this stressful experience.

**Keywords:** Intensive Care Unit, Trauma, Stressor, Viewpoint, Nurses, Patients

## 1. Background

Treatment in an intensive care unit (ICU) is both stressful and psychologically traumatic for patients. Many mental disorders can arise following traumatic and stressful events, including anxiety, depression, and post-traumatic stress disorder (PTSD) (1). Anxiety or depression may not only occur due to a critical illness, but also due to the stressful and traumatic event itself. The extended follow-up of survivors of ICU treatment has shown that many patients suffer long-term physical and psychological consequences that affect their quality of life. ICU admission and the subsequent ICU experience expose a patient to numerous physiological and psychological stressors that could initiate or intensify a stress reaction and thus lead to PTSD (2, 3). The use of sophisticated technologies along with at-

tempts at complex and invasive procedures make the ICU a stressful environment for patients (4). Such a stressful environment can induce physical and psychological changes in patients. It not only renders them disoriented in terms of time and place, but also predisposes them to certain psychological problems such as hallucinations, delusions, insomnia, and ICU psychosis (5, 6).

Evidence shows that encountering environmental noises and unfamiliar people, continuous 24-hour lighting, sophisticated equipment (7), lack of contact with family and friends, deprivation of personal property, invasion of an individual's privacy (8), immobility, difficulties in communication, sleep deprivation, experiencing invasive procedures, unrelieved pain, and the presence of tubes in the patients' mouth and nose are among the

prevalent stressors experienced by patients in ICUs (9, 10). These stressors consequently affect the patients' health, recovery, and rehabilitation. Such consequences might continue for several months after discharge from the ICU and hence would negatively affect the patient's quality of life (11, 12). Therefore, nurses and other healthcare professionals should be responsible for recognizing ICU patients' stressors and then implementing actions to control or minimize those stressors in order to accelerate patients' recovery and rehabilitation (10, 13). Studies have also confirmed that stress reduction strategies and psychosocial support for ICU patients can significantly improve such patients' vital signs, pain, anxiety, complications, length of stay, sleep, overall satisfaction, and overall treatment outcome (3, 14).

Several studies have investigated nurses' and patients' views of the stressors inherent in ICUs. For instance, So et al. reported that being confined by several tubes was the highest ranked stressor as perceived by both nurses and ICU patients (15). However, a similar study reported that fear of death was the most important stressor as perceived by both nurses and patients (16), whereas another study compared nurses' and patients' viewpoints on ICU stressors and reported that thirst was the highest ranked stressor in the patients' view, while nurses did not generally consider this issue to be a stressor (17). In another study, Kaur et al. compared patients' and staff nurses' perceptions of the environmental stressors in an ICU and reported that nurses placed fear of death and financial concerns in the first rank of patient stressors, while the patients themselves put pain and physical stressors in the first rank (18).

## 2. Objectives

This study aimed to compare patients' and nurses' views on the stressors to be found in intensive care units.

## 3. Methods

### 3.1. Study Design and Participants

This cross-sectional study was conducted on 120 patients who were hospitalized in ICUs and 60 nurses who worked in the ICUs at Shahid Beheshti Hospital, Kashan, Iran, in 2014. A consecutive sampling method was used to recruit the patients, while the nurses were selected via a census method. Having a bachelor of science degree in nursing and a minimum of six months' work experience in an ICU were the inclusion criteria for the nurses. The inclusion criteria for the patients included being conscious and oriented, place, and person, willingness to participate

in the study, ability to answer the study questionnaire, being hospitalized for at least 48 hours, ability to communicate, having no known mental disorder, and not having a previous history of hospitalization in an ICU.

The number of patients required for the current study was calculated based on the approach of a previous study by Hweidi, in which the standard deviation of the stress level was 27.3 (5). Based on that, with  $\alpha = 0.05$ , and given a measurement precision of 5 (d), 120 patients were estimated to be needed.

$$\begin{aligned} n &= \frac{\left(Z_{1-\frac{\alpha}{2}}\right)^2 \times \sigma^2}{d^2} \\ &= n \\ &= \frac{(1.96)^2 \times (27.3)^2}{25} \\ &\sim 115 \end{aligned} \quad (1)$$

### 3.2. Instruments

The study instrument consisted of two parts, namely a demographic questionnaire and Cochran and Ganong's modified ICU environmental stressors scale (ICUESS) (19). The demographic questionnaire consisted of questions about the nurses' age, sex, and marital status, as well as the patients' age, sex, marital status, education level, and length of stay in the ICU. The ICUESS scale consists of 50 items related to ICU stressors, which are rated on a five-point Likert scale ranging from extremely stressful (= 4) to non-stressful (= 1). The total score ranged from 0 to 200. The higher the score, the greater the severity of the perceived stress.

The content validity of the Farsi version was confirmed by ten nurse educators at the Kashan nursing and mid-wifery school. The Farsi scale was administered to ten nurses working in the ICUs, and its internal consistency was examined using a Cronbach's alpha coefficient of 0.91.

### 3.3. Procedures

All the nurses and literate patients answered the questionnaires through self-report. However, the illiterate patients were interviewed and their answers were recorded in the questionnaires. All the interviews were conducted by the second researcher, who was trained for this purpose.

### 3.4. Data Analysis

The data were analyzed using SPSS software, version 11.5. Descriptive statistics (frequency and percentage) were calculated for all the variables, while means and standard deviations were calculated for the quantitative variables. All the stressors were prioritized using the mean stressor score. An independent samples t-test was used to compare

the overall mean stressor scores between the nurses and the patients. The significance level was considered to be less than 0.05.

### 3.5. Ethical Considerations

The study protocol was reviewed by the institutional review board, and all ethical issues were approved by the ethics committee of Kashan University of Medical Sciences (KAUMS) (grant number 9368). All the participants were briefed about the purpose of the study, and all of them signed an informed consent form prior to participation. All the patients were assured about the confidentiality of their personal information, and anonymous questionnaires were used.

## 4. Results

A total of 120 patients (28.3% male and 71.7% female) and 60 nurses (55% male and 45% female) participated in this study. In terms of their education level, 93.3% of the nurses had a Bachelor of Science degree, while 6.7% had a Master of Science degree. The mean age of the nurses and patients was  $30.58 \pm 5.84$  and  $45.59 \pm 16.60$  years, respectively. The length of hospitalization in the ICU was  $7.66 \pm 3.94$  days for the patients.

The mean score of the stressors was  $123.23 \pm 17.81$  and  $125.16 \pm 17.35$  from the nurses' and patients' viewpoint, respectively ( $P > 0.05$ ). The highest ranked stressor was the same for both groups. Moreover, the mean stressor scores were approximately similar in both groups for the first eight stressors (Table 1).

## 5. Discussion

This is the first Iranian study to compare nurses' and patients' views on the stressors inherent in ICUs. The highest ranked stressor was the same for both groups, and the mean scores of the two groups were approximately the same for the first eight stressors (from a total of 50). In fact, there were no significant differences between the mean scores of the nurses and patients. A study conducted in Hong Kong reported that nurses and patients had a similar understanding that 'being confined by tubes' was the highest ranked stressor in the ICU (15). A study from Turkey also reported that nurses and patients exhibited similar views regarding the most important stressors in ICUs (16). It seems, that ICU nurses have a good understanding of patients' stressors. In contrast to the present study, Landstrom et al. reported that the nurses in their study did not appropriately perceive the feeling of thirst in their patients, while such a feeling was among the top priorities

in the patients' view. It is crucial for nurses to appropriately perceive their patients' needs (17). Otherwise, as reported by Kaur et al., the quality of care might be diminished, and the patients' care-related needs might be overlooked if nurses cannot appraise their clients' needs and stressors appropriately (18).

In this study, a lack of control over urine and stool was the most important stressor from the viewpoints of both the patients and the nurses. A similar finding was reported by Cochran and Ganong (19), Hweidi et al. (5), and Novaes et al. (20), who all studied nurses' and patients' views on ICU stressors. A study conducted in Hong Kong reported that a lack of control over urine and stool was the second highest ranked stressor for ICU patients (15). In a previous study conducted in Iran, Nasiri et al. reported that experiencing problems performing religious practices and having to request help with the elimination of urine and feces were among the main stressors for Iranian patients in coronary care units (21). The elimination of urine and feces is a basic human need. Addressing this need requires a respect for privacy, especially for patients in Islamic countries such as Iran. If people's privacy is not observed, such needs can become very stressful. Unfortunately, due to the physical structure of our ICUs, patients' privacy is not currently very well respected (18). Therefore, such needs are very stressful for Iranian patients. Hence, it is not only necessary to pay special attention to assessing ICU patients' need for elimination, but also to respect their privacy during urine and feces elimination.

Pain was seen as being among the main stressors from the viewpoints of both groups in the present study. In fact, it was the second stressor for the patients and the third from the nurses' viewpoint. Consistent with our findings, several previous studies have also reported that pain is an important stressor, not only in the view of ICU patients, but also from the nurses' viewpoint (5, 15, 18, 19, 20, 22, 23). Pain is a suffering experience that can affect other physiological responses (24). This is particularly true in ICU patients who are physically unstable and who typically experience several invasive procedures. Therefore, it is crucial to pay particular attention to assessing and reducing pain in ICU patients.

In the current study, having a tube in the mouth or nose was the third highest ranked stressor for the patients and the fourth from the nurses' viewpoint. Consistent with the present study, suffering from tubes in the mouth or nose was identified as a main stressor in several studies (5, 19, 20, 22). So et al. reported that "having a tube in the mouth or nose" was the third highest ranked stressor from the nurses' viewpoint, although the patients did not rank this factor among their main stressors (15). Similarly, neither Kaur et al. (18) nor Soh et al. (23) reported this factor

**Table 1.** Ranking of the Stressors From the Patients' and Nurses' Viewpoints Based on the Stressors' Mean and SD

Rank	Nurses	Mean $\pm$ SD	Patients	Mean $\pm$ SD
1	Lack of control over urine and stool	3.48 $\pm$ 0.67	Lack of control over urine and stool	3.75 $\pm$ 0.56
2	Fear of death	3.46 $\pm$ 0.81	Pain	3.72 $\pm$ 0.53
3	Pain	3.33 $\pm$ 0.75	Having a tube in the mouth or nose	3.63 $\pm$ 0.6
4	Having a tube in the mouth or nose	3.30 $\pm$ 0.78	Inability to communicate	3.58 $\pm$ 0.62
5	Being confined by the tubes and arterial/venous lines	3.03 $\pm$ 0.68	Longing for family	3.48 $\pm$ 0.60
6	Inability to communicate	3.00 $\pm$ 0.80	Fatigue	3.44 $\pm$ 0.080
7	Fatigue	2.96 $\pm$ 0.86	Hard to sleep	3.36 $\pm$ 0.73
8	Longing for family	2.95 $\pm$ 0.81	Fear of death	3.30 $\pm$ 0.82
9	Hard to sleep	2.93 $\pm$ 0.82	Inability to perform family roles	3.13 $\pm$ 0.98
10	Listening to the heart monitoring devices	2.91 $\pm$ 0.84	Lack of awareness about the length of stay in the ICU	3.10 $\pm$ 0.92

among the stressors perceived by nurses or ICU patients. Having a tube in the mouth or nose is annoying, and it makes it difficult to speak and swallow. However, it facilitates vital processes such as ventilation and nutrition. Perhaps, considering this important role, both nurses and patients perceive such tubes as an uncomfortable necessity.

According to the findings of the present study, we can conclude that the nurses and patients had approximately similar views of the top eight stressors to be found in ICUs. Such similar views could be important in the provision of high quality care and meeting patients' care-related needs in ICUs. Yet, although having a similar perception of stressors is important, it seems that the nurses are not successful in appropriately meeting some of the patients' needs, for example, elimination and pain reduction.

In this study, the elimination of urine and feces was the most important stressor from the patients' viewpoint. It seems that nurses need more training in protecting patients' privacy, while also helping to meet patients' elimination needs.

### Acknowledgments

This article was a master's thesis funded by Kashan University of Medical Sciences (grant number 9368). We would like to thank the research administration of the university, as well as the administrators and staff who helped and supported us during the study.

### Footnotes

**Authors' Contribution:** Study concept and design, Ismai Azizi-Fini, Mohsen Adib-Hajbaghery, and Roya Ahmad; acquisition of data, Roya Ahmadi; analysis and

interpretation of data, Ismail Azizi-Fini, Mohsen Adib-Hajbaghery, and Roya Ahmadi; drafting of the manuscript, Fatemeh Fallahi and Roya Ahmadi; critical revision of the manuscript for important intellectual content, Mohsen Adib-Hajbaghery; statistical analysis, Ismail Azizi-Fini and Mohsen Adib-Hajbaghery; administrative, technical, and material support, Ismai Azizi-Fini, Mohsen Adib-Hajbaghery, and Roya Ahmadi; study supervision, Ismail Azizi-Fini and Mohsen Adib-Hajbaghery.

**Financial Disclosure:** The authors declare that they have no competing interests.

**Funding/Support:** This project was funded by the research deputy of Kashan University of Medical Sciences, Kashan, Iran

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