

play an integral role in the healthcare system during disasters. The educational status of Iranian undergraduate nursing students concerning disaster response was assessed in this study.

Method: A 41-item questionnaire was administered to 135 undergraduate nursing students and 45 nursing teachers. The questionnaire was used to evaluate the educational level, the learning level, and the level of readiness for disasters.

Results: The average score for 68.6% of the students was 15–17.5 (on a scale of 1–20) on questions about disasters. The average score of the student's self-educational level was $37.4 \pm 14.9\%$; and their learning level was $39.5 \pm 31.9\%$. Nursing teachers evaluated their educational level at $21.1 \pm 7.7\%$ and its necessity at $94.6 \pm 6.0\%$. Students estimated their level of self-readiness in disasters as $50.3 \pm 22.4\%$ in the scientific aspect, $48.1 \pm 26.5\%$ in the practical aspect, and $57.3 \pm 29.9\%$ in the emotional aspect. Nursing teachers stated that the scientific preparedness of students is $28.6 \pm 12.1\%$, their practical readiness is $34.3 \pm 15.1\%$, and their emotional readiness is $41.4 \pm 26.7\%$. Male students evaluated their practical and emotional readiness to be greater than female students. Of the students, 80% believed that theoretical education is not enough to prepare them for disasters, and 88.6% believed that practical disaster education is not enough. A multiple regression coefficient test for assessing the related factors with the level of readiness of students showed that the learning level in faculty classes, participation in extracurricular classes about disasters, and disaster experience have a significant and positive correlation with the level of readiness in students.

Conclusions: It may be necessary to revise the undergraduate nursing curriculum, add practical courses, and adopt efficient teaching methods.

Keywords: disaster readiness; education; nursing; preparedness; students; teaching

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(160) Intervention to Increase HIV/AIDS Knowledge and Compliance with Universal Precautions among Nurses

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Introduction: This study was designed to test the impact of an intervention on nurses' Human Immunodeficiency Virus (HIV)/Acquired Immune Deficiency syndrome (AIDS) knowledge and compliance with universal precautions (UPs) procedures in the emergency department between March and May 2006 in Shiraz, Iran.

Methods: A quasi-experimental survey was performed using 120 nurses. The intervention consisted of a one-day training workshop that consisted of a lecture and focus group discussion. Each participant was asked to answer pre- and post-session knowledge questions during three periods of time (before, immediately after training, and three months later). Compliance with UPs consisted of using 11 items, and data were collected from observations. Paired *t*-tests were used to compare differences between the pre- and post-session knowledge scores and compliance with UP.

Results: Knowledge significantly increased immediately after and at three months after the intervention compared to before the intervention ($p < 0.0001$). The nurses' knowledge scores increased from 68.9% before training to 100% immediately after and 95% three months after training program ($p < 0.0001$).

A statistically significant difference was found in the knowledge of HIV and the implementation of UPs ($p < 0.0001$). Observed compliance with UP procedures before and after the training workshop ranged from 71.7% to 98% for glove use, 75.5% to 99% for hand washing after glove removal, 53.8% to 83% for wearing a mask, and 78.3 to 87.7% for not using a needle cutter. The results also indicated that some nurses (37.7%) still recapped needles. Compliance strongly correlated with several key factors, including: (1) unavailable supplies; (2) insufficient time; and (3) discomfort.

Conclusion: The education and training resulted in enhanced knowledge and performance of nurses working in the emergency departments.

Keywords: acquired immune deficiency syndrome (AIDS); human immunodeficiency virus (HIV); Iran; nurses; universal precautions
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(161) Emergency Cricothyrotomy: A Comparison of Three Techniques in Human Cadavers

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Introduction: Cricothyrotomy is the final, lifesaving option when neither ventilation nor endotracheal intubation is possible.¹ Efficient management is indispensable to reestablish oxygenation, and thus is the quickest and safest method should be used. The aim of this study was to compare three cricothyrotomy techniques.

Methods: Cricothyrotomy was performed in 61 human cadavers by 61 participants (57 medical students, 4 anesthesiology residents). After theoretical instruction, the participants were assigned to one of the following techniques: (1) surgical technique ($n = 21$, modified ATLS® approach); (2) catheter-over-needle technique ($n = 20$, Quicktrach, VBM-Medizintechnik); and (3) wire guided cricothyrotomy (Seldinger technique ($n = 20$, Melker Cricothyrotomy Set, Cook)). The times to the insertion of the cannula as well as success rate and complication rate were recorded. The statistics are reported in mean \pm SD, using ANOVA and Chi-square tests, Bonferroni.

Results: Cricothyrotomy was successful in 95% of the surgical group, in 85% of the Quicktrach group, and in 75% of the Seldinger group (not significant). Speed was similar between the surgical (106 ± 65 sec) and the Quicktrach technique (114 ± 94 sec). Seldinger-cricothyrotomy took significantly longer (180 ± 111 sec, $p < 0.05$). No complications were observed in the surgical group. One or more complications were found in 55% of cadavers of the Seldinger group, and in 65% of the Quicktrach group (both groups, $p < 0.001$ vs. surgical).

Conclusions: Surgical cricothyrotomy had the lowest complication rate and tended to be quicker and more successful than the other techniques.

Reference:

1. Henderson *et al.* *Anaesthesia* 2004;59:675–694.

Keywords: cadavers; cricothyrotomy; efficiency; oxygenation; techniques
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(162) Considerations About a Symposium on Nursing Services in Disasters

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It is of great importance to minimize the number of disaster casualties while at the same time maximizing the quality of saved lives. That is why potential disaster threats should be eliminated if possible. To achieve this goal, personal, organizational, national, and global awareness and preparedness levels should be developed. In this study, 529 participants of “Nursing Services in Disasters Symposium” were asked what they thought of the symposium and what they thought about the disaster studies made in Turkey. The answers from 231 participants are discussed based on scientific criteria.

Keywords: awareness; casualties; disaster; preparedness; survey; Turkey
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(163) Improving the Performance of Triage Nurses

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The chief concept of an emergency ward is triage. The initial objective of an effective triage system is to identify severe emergencies and perform the necessary actions to allow the victims to survive the situation. Due to these special characteristics, triage nurses must have three main qualities: (1) speed; (2) accuracy; and (4) skill.

The performance of triage usually is stressful. Therefore, it is critical to choose and process the appropriate data. Therefore, the nurse must have concentration skills, thoughtfulness, and a good memory, because the consequences of errors during the process could be irretrievable. To prevent such occurrences, the nurses' cognitive skills such as: (1) attention; (2) concentration; (3) data processing; (4) decision-making; and (5) ability to use information technology should be improved.

The concept of data processing in triage contains six stages: (1) collecting data; (2) collecting signs; (3) collecting symptoms; (4) ranking the information; (5) defining the probable diagnosis; and (6) formulating the nursing diagnosis.

The data can be organized according to: (1) conditions; and (2) occurrences. Some diagnostic errors concerning daily occurrences can include: predicting errors. Constant training of triage nurses is important, five different qualities compared to a new triage nurse including: (1) smoothness; (2) automaticity; (3) mental effort; (4) being stress free and (5) points of view.

Selecting effective and efficient triage nurses is of ultimate importance. Experience shows that high self-monitoring people have priority over low self-monitoring people.

Keywords: education; improvement; nursing; training; triage
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(164) Disaster Education and Training of Emergency Nurses in South Australia

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South Australia has a population of 1.1 million people, the majority of whom reside in metropolitan Adelaide. South Australia has been fortunate to avoid a major incident that has involved mass casualties or a large-scale response from the healthcare system.

Currently, there is no structured disaster education for emergency nurses in South Australia. The only formal training is the Major Incident Medical Management and Support (MIMMS) three-day course, which six emergency nurses have now completed. This implies a significant gap in disaster education and awareness among the emergency nurses of South Australia.

As the largest group in the multidisciplinary team, nurses in the emergency department play an important role in carrying out the department's disaster plan and potentially can be deployed to disaster sites. Combined with the potential threat of mass-casualty incidents, it is imperative that all emergency nurses, particularly on a senior clinical level, have disaster education. For this to occur, it is essential to increase awareness and to introduce disaster education.

The plan is to implement a standardized approach to disaster education within the state. Initially, this could be approached by circulating a questionnaire and creating a database of emergency nurses, including any disaster education/experience they have. Introducing and increasing nurse participation in the one-day MIMMS course also would be beneficial. In the future, the introduction of more formalized education statewide or through the university system would be appropriate.

Keywords: Australia; disaster training; nurses; preparedness; response
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Oral Presentations—Theme 11: Pediatrics

Session 1

Chairs: Leonid Roshal; Arthur Cooper; J. Peper

Problems of Rendering Medical Aid to Children in Disasters, Wars, and Terrorist Events

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Children's hospitals where various pediatric specialists work are common. However, while providing medical help to children in disasters, wars, and terrorist events, this fact is not taken into account. That is why children often do not