

givers. A long-term goal of this research is to contribute to the continuing development of prehospital care systems.

Keywords: ambulance crews; health care; misconceptions; patient care; prehospital care

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Airport Emergency Medical Assistance: The Experience from Stockholm Airport

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In August 2004, the Stockholm Airport Emergency Medical Assistance in cooperation with the Swedish Airports and Air Navigation Services and the Karolinska Hospital. It consists of an emergency medical center providing emergency medical care to all passengers and airport staff daily from 08:00 hours to 17:00 hours.

Registered nurses with special competence in emergency and disaster medicine staff the center, which has all the necessary equipment for first aid. The nurses can be dispatched quickly using a kick bike and bring the equipment and drugs needed to respond to the different medical alerts. Although the nurses work independently, but if they need medical advice, a physician always is available by phone. The center also plays a role in the airports disaster plan.

Between January 2005 and November 2006, a total of 1,709 patients received medical care at the center. Among these, 706 patients (41%) were medical emergencies. Among the 353 medical alerts in 2006, 140 (40%) were sent by ambulance to hospital for further treatment.

The six most common medical problems observed were; wounds ($n = 200$), dizziness or loss of consciousness ($n = 186$), bone or soft tissue injuries ($n = 151$), cardiac ($n = 120$), abdominal ($n = 102$), and ear, nose and throat ($n = 93$).

The specially trained nurses that staff the Stockholm Airport Emergency Medical Center offer a sufficient response to the majority of the medical emergencies observed in the airport. They can rapidly evaluate and triage patients in need of further hospital care and also offer valuable advice and care to passengers with less severe medical problems.

Keywords: airport; assistance; emergency medical services; Stockholm

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Developing the Nursing Role in Emergency Nursing and Disaster Management to Address the Needs of Diverse Populations

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This presentation describes the development of an emergency nursing disaster management program utilizing a multi-disciplinary approach. This program focuses on leadership development and use of a multi-disciplinary approach to emergency and disaster management on diverse populations.

Objectives of the program are to clarify:

1. The roles of the nurse in a multi-disciplinary approach to emergency and disaster management;

2. The need for preparing emergency nurses in disaster management leadership skills; and
3. The impact of the multi-disciplinary approach to leadership training in addressing the needs of diverse and special populations during an emergency or disaster.
4. The target audience of the program consists of hospital and public health nurses and administrators, emergency preparedness planners, and coordinators.

Keywords: disaster management; diverse populations; emergency nursing; leadership; multi-disciplinary approach

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Forensic Emergency Nursing: A Potential Response to the Growing Need of Victims of Violence and Disasters

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Forensic nursing is a new professional concept in the Netherlands, although has been long established in the United States, England, Canada, and Australia. The roots of forensic nursing go back to clinical forensic medicine which focuses on the investigation of traumatic injury or patient treatment with legal issues. However, unlike forensic medicine, in which the pathologist is concerned with the deceased and the investigation of death, forensic nurses work in the field of the living, identifying and collecting evidence from living patients. Moving out the morgue and into the emergency department or clinical area paves the way for nursing involvement.

There is an increasing awareness of the importance of forensic evidence collection, and appropriate storage and disposal of materials in victims of violence and disasters. These actions are necessary not only for legal implications, but also for the psychological outcomes of the victims of traumatic events. The increasing emphasis placed on the proper collection of forensic evidence is a logical step in the development of holistic healthcare.

Currently, there is a void in healthcare system in the treatment of victims of violence and disasters. The introduction and development of forensic nursing will be an improvement to total patient care. Forensic emergency nursing should be recognized by law and by hospitals as an official, authorized, professional status in the Netherlands.

Keywords: forensics; law; nursing; victims; violence

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Poster Presentations—Theme 10: Nursing and Paramedic Issues

(159) Education of Iranian Undergraduate Nursing Students About Disasters: Viewpoints of Students and their Teachers

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Introduction: The occurrence of disasters and the resulting casualties have increased during the past 10 years. Nurses

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).