Assessment of clinical proficiency of nurses of hospitals relevant to one of the Tehran medical sciences universities in critical situations in 2008

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Abstract

Aims. Nursing is one of important divisions of health and medical service during critical circumstances, because nurses are the first personnel present in the situation of disaster who offer care service. Goal of this study is to evaluate clinical proficiency of nurses in critical situations.

Methods. Essential data were collected with questionnaires from three hospitals in Tehran. Collected data were assessed by SPSS 11.5 software using descriptive statistics.

Results. In this study nurses were classified into three groups according to total acquired points for clinical proficiency: weak (point under 79), intermediate (point 80 to 125) and good (above 125). According to this, 14% of persons were weak, 64.5% were intermediate and 21.5% were good.

Conclusion. One of the most important needs of nurses is education of clinical proficiencies. By evaluating results, it was shown that majority of nurses in the study don’t have many of proficiencies for critical situations which require high science and practical experience, and their need to learn essential proficiencies for critical and emergency situations, is completely evident.

Keywords: Clinical Proficiency, Military Nurses, Critical Situations

Introduction

Goal of this study is assessment of clinical proficiency level of nurses for doing their duties during critical conditions such as war, earthquake, accidents, flood and other missions. History of human life is full of events, accidents and disasters that have exposed their life and property to danger. Tribal struggles and conflicts, earthquakes, floods and other natural events and disasters and their consequences endanger the human life, so that the fourth cause of mortality worldwide are environmental damages after heart failure, cancer and stroke. Also, the first 72 hours after such events is considered very important and all possible facilities and capacities must be used in order to save injured people. Therefore, the role of relief teams, that is, immediate attendance and providing immediate and special care and transfer of injured people from danger field, is highly significant [1].

Disasters considerably endanger public health and Most of them cause morbidity and mortality along with serious damages to properties, especially houses, health and hygiene facilities and vehicles. Transportation roads and networks become severely damaged so that saving and relief procedures become difficult to perform [2]. These events always have existed throughout human history all over the world, but since the majority of earth population resides in Asia, and in spite of rich sources, its main countries are considered “developing counties “compared to other continents, most disasters occur in Asia. Annually, 80 main earthquakes, 47 great storms and 47 other unexpected events take place in Asia [3].

Today’s world is subjected to various natural and unnatural events and accidents that have generally become a crisis and a turning-point for creating small and big changes in so called ‘modern’ human life. These events always threaten financial and human resources of society [3]. According to international Red Cross statistics, the average annual natural disasters’ statistics have been 428 cases between 1994 and 1998, while 707 cases have been reported between 1999 to 2003 [4]. According to reports of United Nations, in last 20 years unexpected events in the world have led to death of 3 million people and 800 million people have been affected and they have caused nearly 500 billion dollars damage. Meanwhile, Asian and African countries have tolerated the most losses [5].

Our country, due to its width, geographical situation and climate variation is one of ten countries, most subjected to disasters. Earthquake in terms of both financial destructive effects and human casualties is the most hazardous natural disaster, so that in last decade 950 earthquakes have occurred In Iran and as the result 376 people have died and 533 thousand people have been injured. Bam earthquake should also be added to mentioned statistics [5].
In reaction to disasters, nurses play the key role. Nursing in disasters includes systematic application of knowledge and special proficiencies and activities which lessen life threatening risks resulting from disasters [6]. It is essential for nurses to have nursing proficiencies during disasters. High practical knowledge and particular skills are known as proficiencies that include determining the hierarchy, awareness of emergency reaction program, regular practical exercises, appropriate use of emergency equipments such as personnel protecting equipments, following communication means and paths, attending evaluations and improving the reaction program if required [7]. Natural disasters and events annually kill a lot of people. In order to reduce the effects of this destructive factor, several governmental, nongovernmental, international, professional and non professional organizations and institutions are established and developed each day. Nursing system as a main subsystem of health ministry in any country is influenced by culture, civilization and phenomena occurring there. Each member of nursing society should be responsible for crises or social damaging phenomena. Researches conducted all over the world have shown that the presence of nurses in crises can reduce the number of casualties and deaths 50 to 70 percent [8]. In the past, nurses relied on their clinical experiences in order to fulfill their duties during various missions in common treatment centers. While there are considerable differences between required nursing skills in missions compared to common treatment centers. From Zadinsky’s point of view, nursing is of no use in common treatment centers and there are great differences between ways of care for patients in common treatment centers and missions. From these differences one can mention high technology vs. low technology, automatic equipments vs. manual equipments and moderate care vs. high variety of care needed in missions [9]. Since injuries and deaths are the primary and negative effects of disasters, it is evident that social health system has an efficient and direct role in coping with disasters. Unfortunately, disaster management most emphasizes on result and neglects the relief or alleviation before events and improving afterward [10]. Since there is no scientific or academic study on proficiency of nurses who normally participated in the natural and unnatural crises in Iran, and on the other hand, necessity of maintaining complete readiness for delegated missions, with respect to potential threats in Iran and particular work conditions, present study was designed to investigate the amount of clinical proficiency of nurses in various fields of crisis control. By doing this study, in addition to identifying the educational needs, strong and weak points of current educational programs were identified in order to adapt a scientific plan for obviating the weak points. Obviously by following these steps, desired results will be obtained in promoting the ability of nurses and reinforcing necessary skills in order to reduce the consequences of crises.

Methods
A cross-sectional descriptive survey investigated the clinical proficiency level of study units. Study units were formal nurses with associate degree and higher, working in subsidiary hospitals of one of medical universities of Tehran. Sampling was random simple cluster, and 265 qualified nurses participated in the study. Data collection took place in 1386 accompanying questionnaire, then, collected data were analyzed using SPSS 11.5 software and descriptive statistics.

Results
From the total number of 265, 54% were male and 46% were female. Most had BA (84%) and the average age was 36.2. according to the findings, study units had the highest proficiency in IV cannulation (88%) and the lowest proficiency in taking care of “chemical-microbial-nuclear” (Ch.M.N) patients (64.9%). Table 1 shows the other skills from which the subjects obtained low points. Nurses were divided into three groups of weak (under 79), intermediate (80 to 125 points) and good (above 125) according to their obtained points. On this basis, 14% of subjects were weak in clinical skills, 64.5% were intermediate and 21.5% were good. Regarding sex or gender of samples, 9.1% of males got weak degree, 64.3% got intermediate degree and 26.6% got good degree. In contrast, 19.7% of females got weak degree, 64.8% got intermediate degree and 15.5% got good degree.
Table 1- Various types of proficiency of which study units had the lowest point and the percentage of weak people

<table>
<thead>
<tr>
<th>Type of Proficiency</th>
<th>Low proficiency point percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taking care of seasick patients</td>
<td>63.8</td>
</tr>
<tr>
<td>Taking care of him/herself and patient against &quot;Ch.M.N&quot; factors</td>
<td>58.1</td>
</tr>
<tr>
<td>Intubation</td>
<td>59.7</td>
</tr>
<tr>
<td>Taking care of people injured from launched missiles (bullet, mortar, etc.)</td>
<td>52.1</td>
</tr>
<tr>
<td>dealing with protecting cover of &quot;Ch.M.N&quot;</td>
<td>51.7</td>
</tr>
<tr>
<td>Collecting and recording information in region</td>
<td>51.3</td>
</tr>
<tr>
<td>Diagnosis of pressure pneumothorax</td>
<td>49.1</td>
</tr>
<tr>
<td>Triage</td>
<td>30.2</td>
</tr>
</tbody>
</table>

Compared to women, men had higher clinical proficiency. There was significant difference between clinical proficiencies of men and women (p=0.003), and men had relatively higher clinical proficiency than women, but there was no significant difference between single and married individuals. There was significant difference between subjects in different age groups (p=0.002) and the third age group (41-50 years old) had higher clinical proficiency. There was no significant difference between subjects with different educational background and subjects of three hospitals under study.

Discussion

According to Reineck, military clinical proficiency includes ideas, technical efficiency, and the ability of using nursing techniques with special equipment of mission, physical examination skill, clinical decision intelligence, and triage and trauma skills. In addition, it includes the flexibility and the ability of playing different uncommon roles [11]. Proficiency in nursing includes understanding and applying the fundamental and primary nursing science in order to fulfill most difficult professional techniques. Also, developing and maintaining the skills and recognizing the preferences is so important in nursing profession [12]. Reineck believes that clinical proficiency is one of essential components of one’s readiness. Clinical proficiency used in war situation should be recorded more accurately than common treatment centers. These skills include increasing of independence, performing orders without physician’s presence, triage, taking immediate actions, using senses in patient examination without high-tech equipments and taking care of patients suffering from various kinds of disease in unpleasant war setting [14]. In Reineck study [11], nurses had high level of proficiency for taking care of shocked patients, triage, calculating the percentage of burn, keeping the airway open and implementing the international protocol of blood transfusion, and had intermediate level of proficiency for pre-delivery and post-delivery cares. For none of the participants in Reineck study, “too high” level was reported in any kind of clinical proficiency.

In the Rivers study, nurses had “intermediate to high” level of proficiency in performing treatment orders, performance in code (emergency) and dealing with shocked patients, and “high” level of proficiency in taking care of “Ch.M.N” injured patients, airway monitoring, IV cannulation and defining the concepts of “ABC” (Airway-Breathing-Circulation in life maintenance [15].

In Murdock study, nurses had high level of proficiency in taking care of shocked patients, triage, airway monitoring, performing usual treatment orders, and familiarity with ABC concepts in life maintenance. They had “intermediate to low” proficiency level in pre-delivery and post-delivery cares, taking care of “Ch.M.N” injured patients and launched missile injured patients. “Too high” level was not reported in any of skills [16]. In Morris study, nurses had high level of proficiency in performing treatment orders, examining and reporting unusual findings and identifying details of physical examination, and low level of proficiency in taking care of NBC’s patients [17].

Conclusion

In the present study, nurses showed high level of proficiency in taking care of shocked patients, blood transfusion, performing treatment orders, performance in emergency conditions, IV cannulation, airway monitoring, giving treatment orders, performing ABC and physical examination, intermediate proficiency level for triage and calculation of burn percentage and low level of proficiency in intubation and taking care of patients injured from launched missiles (bullet, quiver, etc.) and “too low” proficiency level in pre-delivery and post-delivery cares and taking care of “Ch.M.N” injured patients. It seems that more attention should be paid to weak points in nurse training programs, in order to control the human consequences of crises and increase nurses’ practical efficiency and clinical proficiency.

References

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