INVESTIGATING NURSING STUDENTS’ LEVEL OF KNOWLEDGE IN CARING FOR TRAUMA PATIENTS

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ABSTRACT

Purpose and background: Trauma is one of the most important leading causes of death. According to the estimation of world health organization, accidents and traumatic patients are among the main causes of mortality. As rate of medical errors are high in evaluation of traumatic patients in stressful situations, ability to cope with the condition, high level of knowledge and accurate medical diagnosis are essential. Nurses, as big professional groups in health care systems, play a key role taking care of traumatic patients. In this study, we aimed to assess nursing students’ level of background knowledge in Tabriz University of Medical Sciences (TUOMS) and Tabriz Azad Medical University (TAMU) in regard to trauma care.

Materials and methods: After obtaining informed consent, 180 nursing students of TUOMS and TAMU were enrolled in this cross-sectional study. A questionnaire was completed for further evaluation of basic information about traumatic patients by each student.

Findings: The results showed that there was no significant difference between two groups of students of National and Azad universities.

Conclusion: Our study demonstrates that the nursing student’s level of knowledge in both universities of Tabriz is very low. These results highlight the necessity of appropriate training in this field for students.

Key words: Nursing Students, Knowledge, Trauma Patients.

Received February 05, 2016; Accepted March 02, 2016

Introduction

Trauma is currently one of the most important leading causes of death¹. Every year, there is approximately about 5.8 million mortalities as a result of an injury²,³. Injuries account for 16% of disability-adjusted life year, which is expected to increase in the future⁴,⁵.

There are some studies in Iran shows that several traumatic accidents leading to death occur in countries with low income. Epidemiologic studies demonstrate that Iran with high road accidents has a huge number of mortality annually due to accidents⁶,⁷. Admitting of traumatic patients to the hospital depends on accessing to hospital services and emergency medical services, severity of injury, health economics factors and health system configuration⁸. Due to necessity of accurate diagnosis and treatment in stressful situations, probability of wrong management and medical mistakes is very high in such circumstances⁹,¹⁰. According to the estimation of world health organization, accidents and traumatic patients leading to death, are the main causes of mortality in the age groups of 15-45 in both male and female. Unfortunately, it is expected to be the third cause of mortality and disability in 2020¹¹. It seems that medical assessment of traumatic patients with high level of knowledge and
abilities are very essential\textsuperscript{(12,13)}.

Nurses as big professional groups in health care systems, play a key role in all aspects of critical situations in order to take care of traumatic patients\textsuperscript{(14)}. In this study, we aimed to evaluate the level of knowledge in nursing students of Tabriz University of Medical Sciences (TUOMS) and Tabriz Azad Medical University (TAMU) in regard to trauma care. Results of this study can be helpful in improving educational methods as well as caring for traumatic patients.

Materials and methods

Statistical population of this cross-sectional study which was done under supervision of 12 professors of TAMU and TUOMS in 2014, consisted of all nursing students in 7\textsuperscript{th} and 8\textsuperscript{th} semesters of TAMU and TUOMS except the ones which have already participated in educational or non-educational workshops and classes held for better care of traumatic patients. Also guest and transferred students in the time of the study were excluded.

After obtaining informed consent, a questionnaire was filled by 180 nursing student. This questionnaire included two categories:

1. Demographic characteristics (age, sex, marital-status, educational grade, university of education, working experiences in clinics/hospitals and total GPA),

2. Twenty-five multiple choice questions based on pre-hospital trauma life support guideline (version 1.3, 7th edition). Questions were designed to evaluate basic knowledge of students about supporting traumatic patients. The score of each correct answer was 1. Score ranges were from 0 to 25. There was a direct relationship between high score and learning.

After assessment of the answers, proportion of correct answer was calculated for each student. The scores were categorized in five groups: 1. Group A (score in range of 91%-100%), 2. Group B (score in range of 83%-90%),

3. Group C (score in range of 75%-82%), 4. Group D (score in range of 67%-74%), and 5. Group E (score below 67%).

Results

Table 1 demonstrates demographic characteristics of the study participants.

According to the basic demographic variables, results show that there is no significant difference between students of TAMU and TUOMS. Also the results of comparison of age, gender and total GPA demonstrated no statistically significant difference.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>144 (80%)</td>
</tr>
<tr>
<td>Male</td>
<td>36 (20%)</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>145 (80.55%)</td>
</tr>
<tr>
<td>Married</td>
<td>35 (19.45%)</td>
</tr>
<tr>
<td>Education grade</td>
<td></td>
</tr>
<tr>
<td>7\textsuperscript{th} semester</td>
<td></td>
</tr>
<tr>
<td>TUOMS</td>
<td>86 (47.77%)</td>
</tr>
<tr>
<td>TAMU</td>
<td>94 (52.23%)</td>
</tr>
<tr>
<td>8\textsuperscript{th} semester</td>
<td></td>
</tr>
<tr>
<td>TUOMS</td>
<td>81 (45%)</td>
</tr>
<tr>
<td>TAMU</td>
<td>99 (55%)</td>
</tr>
<tr>
<td>Total GPA</td>
<td></td>
</tr>
<tr>
<td>Over 17 out of 20</td>
<td>112 (62.22%)</td>
</tr>
<tr>
<td>Below 17 out of 20</td>
<td>68 (37.78%)</td>
</tr>
</tbody>
</table>

Table 1: Demographic characteristics of nursing students participating in study.

<table>
<thead>
<tr>
<th>Level of knowledge</th>
<th>very good (91%-100%)</th>
<th>good (83%-90%)</th>
<th>Average (75%-82%)</th>
<th>Weak (67%-74%)</th>
<th>Too weak (below67%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable’s frequency</td>
<td>Number (percent)</td>
<td>Number (percent)</td>
<td>Number (percent)</td>
<td>Number (percent)</td>
<td></td>
</tr>
<tr>
<td>7\textsuperscript{th} semester TUOMS</td>
<td>2.60</td>
<td>10.50</td>
<td>31.60</td>
<td>44.80</td>
<td>10.5</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>4</td>
<td>12</td>
<td>17</td>
<td>4</td>
</tr>
<tr>
<td>7\textsuperscript{th} semester TAMU</td>
<td>0</td>
<td>6.3</td>
<td>29.2</td>
<td>52</td>
<td>12.5</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>14</td>
<td>25</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>8\textsuperscript{th} semester TUOMS</td>
<td>2</td>
<td>3</td>
<td>16</td>
<td>19</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>4.7</td>
<td>7</td>
<td>37.2</td>
<td>44.1</td>
<td>7</td>
</tr>
<tr>
<td>8\textsuperscript{th} semester TAMU</td>
<td>1</td>
<td>5</td>
<td>19</td>
<td>18</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>1.9</td>
<td>9.8</td>
<td>37.3</td>
<td>35.3</td>
<td>15.7</td>
</tr>
<tr>
<td>Total</td>
<td>2.22</td>
<td>8.33</td>
<td>33.89</td>
<td>43.89</td>
<td>11.67</td>
</tr>
</tbody>
</table>

Table 2: Frequency distribution of the level of nursing students’ level of knowledge in sub-groups of semester grade and university of education.
Conclusion

Management and supporting patients presenting with acute life threatening injuries is difficult most of the time and lead to anxiety even in most experienced clinicians. The course of advanced trauma life support (ATLS) was developed by surgeons of an American college in United Kingdom in 1988 which then became the gold standard of practicing in management of traumatic patients\(^\text{[15]}\).

Results of the study conducted by Carley S et al, demonstrate that methods of adult education can be useful in improving knowledge skills and relationships of health care workers in clinics. It needs several techniques including small group work, skill stations and role play. The generic approach (the ABC approach) should be taught in an excellent level to be applicable in supporting injured patients\(^\text{[16, 17]}\).

In another study by Adam R et al in Trinidad and Tobago in 1994, an ATLS program for physicians resulted in a significant improvement of in-hospital trauma patients. At a general hospital in Spain a mortality ratio of 3.16 was observed in pre-ATLS program compared to 1.94 post-ATLS\(^\text{[18, 19]}\). A survey done by Campbell B et al, has shown that most of the trainers, view ATLS positively. Over 90% had positive attitudes towards ATLS and approximately about 74% selected promotion of managing traumatic patients as the most important reason for attending their course: 93% thought ATLS saved lives, 83% thought all physicians and nurses should have gone through the course and 41% thought it had huge advantages only for doctors\(^\text{[20]}\).

Within limitation of our study the results show that majority of participants had low level of knowledge about trauma and taking care of traumatic patients in both male and female students and in both TUOMS and TAMU. Also, the results of the study represented that there was no significant difference in their level of knowledge in regard to their demographic characteristics.

According to the epidemiology of trauma, as it is one of the most important causes of mortality in developing countries like Iran, and duty of nurses as one of the largest groups in caring for and supporting traumatic patients, there is necessity of conducting several plans and pragmatic efficiencies in training students to decrease mortality and irrecoverable damages. Furthermore, it will help in preventing loss of facilities and energy in our country.

References

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Acknowledgments:
We would like to acknowledge the students for making this study possible, the Research Vice-Chancellor of Tabriz University of Medical Sciences for supporting the project. This article was derived from an approved research project at the Tabriz Medical Sciences University under registration number of therefore, the authors feeling the need to appreciate from the University for its Great Cooperation.

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