RELATIONSHIP BETWEEN PAIN MANAGEMENT KNOWLEDGE OF ICU NURSES CARING PATIENTS WITH MYOCARDIAL INFARCTION AND DEMOGRAPHIC VARIABLES

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Abstract

Objective: This study assessed pain management knowledge of ICU nurses caring patients with myocardial infarction and some demographic variables.

Background: pain is one of the common problems of hospitalized patients. Knowledge of health care providers (nurses) about physiologic effects of pain is very important. Pain management is an important part of the role of nurses in care of patients with myocardial infarction. Factors such as age, type of employment, work experience can contribute to pain management.

Methods: This cross-sectional descriptive study was conducted in Modares Hospital and hospitals affiliated with the Shahid Beheshti University. Participants included 200 nurses. Data was collected by a questionnaire in two parts, demographic variables and knowledge of nurses. Validity and reliability of the questionnaire was evaluated by 10 faculty members of the Iran University of Medical Sciences. The questionnaires were distributed among nurses working in morning, evening and night shifts. Response time was 20 minutes for each nurse. The collected data was analyzed by SPSS software, version 21, and independent t-test.

Results: some demographic variables were related to pain management knowledge of nurses caring patients with myocardial infarction; there was a significant relationship between knowledge and employment (p-value =0.022) and gender (p-value =0.024).
Conclusion: The results showed that gender and type of employment of nurses could be effective in management of the pain of patients.

Keywords: Knowledge, nurse, pain management, myocardial infarction, demographic information.

Introduction

Cardiovascular diseases are the most common diseases in developed countries, accounting for 34.2% of deaths in America. Cardiovascular diseases are the most common cause of mortality in the world. As predicted by the American Heart Association, Cardiovascular diseases will be known as the main cause of mortality by 2020 (Sadeghi, et al., 2013). Acute myocardial infarction which is also known as heart attack and coronary obstruction is a life-threatening condition characterized by formation of necrotic areas within the myocardium. The disorder is usually due to acute blockage of a coronary artery and sudden interruption of blood and oxygen flow to the heart muscle. According to studies, incidence of this disease is reported at 3% as the first cause of mortality in Iran. Annually, one out of 30 patients with heart diseases experiences heart attack (Karimi & Majali, 2012). Patients with myocardial infarction may describe pain as the worst pain experienced in life. Although patients with heart failure may experience many symptoms such as breathlessness, anxiety, restlessness, cold clammy skin, increased heart rate and respiratory rate, chest pain is one of the most important symptoms of this disease. Chest pain is considered as an important indicator for early diagnosis and treatment of myocardial infarction. Chest pain is the most common complaint of heart diseases (Williams & Manias, 2008). Nurses play an important role in assessment and control of pain. Findings show that knowledge of nurses about pain management is effective (Gillies, 2007).

Nurses use different strategies to control pain of patients. Many nursing theories believe that comfort of patients is the main requirement of patients and fundamental purpose of nursing care. They believe that pain management is one of the rights of patients (Bockrath, 2009). Assessing knowledge of nurses regarding non-pharmacological methods, Marconi (2014) concluded that work experience of nurses is not related to their knowledge on pain relief methods. The reason for this could be due to the lack of legal support against possible consequences of pain relief methods. The findings also showed no relationship between age and knowledge of pain relief, which is not consistent with the present study (Marconi, 2014). Gender can be effective in knowledge of patients. Many studies have shown that nurses can provide patients with helpful information. Chung concluded that pain is the most common problem of ICU nursing.
Approximately 85% of hospitalized patients complain of pain. Nurses with knowledge and more experience can better manage the pain of patients (Chung, 2003).

**Materials and Methods**

This cross-sectional descriptive study was conducted on 200 ICU nurses working in Modares Hospital and hospitals affiliated with Shahid Beheshti University. The subjects were available. Inclusion criteria included work experience in ICU, completed project (internship) and consent for participation. Exclusion criteria included willingness to leave during the studied period and unanswered questionnaire. Data was collected by questionnaire in two parts; the first part involved demographic information and the second questionnaire involved pain management knowledge containing 30 multiple-choice questions (11 questions for nature of pain, 6 questions for pain assessment, 12 questions for pain relief and management).

The questions were measured on a 4-point Likert scale ranging from 4 to 1 and total scale of 20 to 60. The correct responses were given the point 2 and incorrect or unanswered questions were given the point zero. The points were classified as low (1-20), average (21-40) and high (41-60). By approval of Research Ethics Committee of the Shahid Beheshti University, the author referred to the management of hospitals and chief of the units and explained the objectives of the study.

Written consent was acquired from qualified nurses. The questionnaires were distributed among nurses in mourning, evening and night shifts. Each of the nurses spent 20 minutes answering the questionnaire. To categorize the findings, data was analyzed by descriptive statistics including absolute and relative frequency distribution tables, inferential statistics, independent t-test and SPSS software, version 21.

**Results**

Table 1 lists characteristics, mean and frequency of subjects in terms of gender and type of employment. Average age of subjects was 25-35 (33.81±7.04). Majority of the subjects were female (60.6%). Moreover, most of the subjects worked in Modares Hospital (65.2%).

Majority of the subjects had Bachelor of Science in Nursing (BSN) degree (10.43±7.37). Subjects had work experience (7.43±5.48). Majority of the nurses were officially employed (48.7%). Moreover, majority of the subjects had not participated in workshops. Thus, nurses required training courses to increase their knowledge.
Table 1: Distribution of knowledge in terms of gender.

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Male</th>
<th></th>
<th>Female</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>Low</td>
<td>1</td>
<td>1.3</td>
<td>1</td>
<td>0.9</td>
</tr>
<tr>
<td>Average</td>
<td>6</td>
<td>7.9</td>
<td>39</td>
<td>33.3</td>
</tr>
<tr>
<td>High</td>
<td>69</td>
<td>90.8</td>
<td>77</td>
<td>65.8</td>
</tr>
<tr>
<td>Total</td>
<td>76</td>
<td>100</td>
<td>117</td>
<td>100</td>
</tr>
<tr>
<td>Mean ± SD</td>
<td>49.92±8.67</td>
<td></td>
<td>46.34±11.75</td>
<td></td>
</tr>
</tbody>
</table>

Independent t-test results: T=2.281 df=191 p-value=0.024

Table 2: Distribution of knowledge in terms of type of employment.

<table>
<thead>
<tr>
<th>Type of employment</th>
<th>Official</th>
<th>Covenant</th>
<th>Internship</th>
<th>Contractual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>Low</td>
<td>1</td>
<td>1.0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Average</td>
<td>29</td>
<td>29.9</td>
<td>3</td>
<td>11.1</td>
</tr>
<tr>
<td>High</td>
<td>67</td>
<td>69.1</td>
<td>24</td>
<td>88.9</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>100</td>
<td>27</td>
<td>100</td>
</tr>
<tr>
<td>Mean ± SD</td>
<td>46.39±11.19</td>
<td></td>
<td>49.92±8.67</td>
<td></td>
</tr>
</tbody>
</table>

ANOVA results: F=3.283 p-value=0.022

According to the results, the highest frequency was related to male nurses (90.8%) and nurses with contractual employment (89.6%).

Discussion

This study assessed pain management knowledge of nurses caring patients with myocardial infarction and certain demographic variables. There was a significant relationship between gender and type of employment. Given the important role of nurses in pain management of patients with myocardial infarction, Sloan et al, the University of Kentucky, found that nurses require professional knowledge and skills of pain management to reduce pain and improve quality of life of their patients (Sloan, 2010). Lai et al in Taiwan concluded that nurses required training for pain management. Their
results showed that in-service training could have an effect on knowledge of nurses (Lai, 2003). Knowledge, in-service training courses and work experience are effective on pain relief knowledge of nurses, which is consistent with the current study.

Assessing knowledge of nurses regarding pain management of patients with myocardial infarction, Furstenberg et al suggest that nurses require extensive training programs on pain management of patients (Furstenberg, 2009). Van Niekerk and Martin assessed pain treatment knowledge of Tasmanian nurses and showed that nurses had moderate knowledge; in particular, nurses had lower knowledge about new pain medications (Van Niekerk, 2008). To improve knowledge and attitudes of nurses about pain relief cares, particularly in intensive care units, it is essential to hold in-service training courses, use experienced nurses and nurses with higher education along with young and inexperienced nurses to eliminate errors and ultimately reduce irreparable damage to patients. Adequate facilities, equipment and human resources can also improve positive attitude of nurses and ultimately increase patient satisfaction (Salvado, 2010).

**Conclusion**

The results of this study show that male nurses have high knowledge about pain of patients with myocardial infarction. Type of employment also can be effective in pain management of patients. This increases efficiency and quality of nursing services. Given that this descriptive study was conducted among ICU nurses, further studies with larger sample size are required to generalize the results to all nurses and other medical personnel. Therefore, it is suggested to conduct future studies in other treatment facilities and compare the results with this study. This study could be a starting point for further research in other fields of medical sciences.

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**References**


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