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Effect of Nurses' Awareness on Myocardial Infarction Pain Management

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Abstract

Background: Awareness of healthcare providers (especially nurses) about common medical problems is an important issue in realizing the significant effects of pain physiology. Pain management in myocardial infarction is a major responsibility of nurses, which can be accomplished through care provision for patients. Nurses' age, type of employment, and other factors such as work experience have great impacts on the efficacy of pain management and the related parameters.

Objectives: To determine the level of nurses' awareness about pain management in myocardial infarction as a critical care issue, based on the clinical data.

Methods: This descriptive cross sectional study was carried out in teaching hospitals, affiliated to Shahid Beheshti University of Medical Sciences. In this study, 200 nurses were selected as the participants. The data collection tool was a questionnaire consisting of 2 parts. The demographic and awareness sections of the questionnaire consisted of 10 modules of the Faculty of Medicine. The selection criterion was defined to identify the validity and reliability of actual care implementation. Each nurse was evaluated in the morning, afternoon, and evening shifts in a live response manner to determine the level of care provision. It took 20 minutes to complete the questionnaire. Dishonesty in responding to the questionnaire (predefined) was controlled and eliminated. For data analysis, statistical tests including independent t test were performed, using SPSS version 21.

Results: Based on the findings, the nurses' knowledge (skills and expertise) about myocardial infarction pain management had a significant relationship with their consciousness, type of employment (P = 0.022), and sex (P = 0.024).

Conclusions: The results showed that sex and type of employment play effective roles in myocardial infarction pain management.

Keywords: Knowledge, Nurses, Pain Management, Myocardial Infarction, Awareness

1. Background

Cardiovascular diseases (CVDs) are the most common medical conditions in developed countries. According to previous reports, 2.34% of deaths in the United States are attributed to CVDs. In fact, CVDs are among the leading causes of mortality in the world. As predicted by the American heart association, CVDs will be the main cause of mortality by 2020 (1-3).

Acute myocardial infarction (MI) is commonly known as heart attack. Also, coronary obstruction is a life-threatening condition, caused by the formation of necrotic areas in coronary arteries of myocardium. Coronary artery blockage can cause a sudden interruption in the blood and finally lead to oxygen flow to the heart muscle (4). Based on several studies, the incidence of CVD, as the leading cause of mortality in Iran, is 3%. Also, MI (heart attack) accounts for 30 cases of cardiac diseases annually (5-8).

The pain associated with MI is very severe. Therefore, MI patients show the greatest strength in pain management. Although patients with heart failure present with numerous signs and symptoms, such as breathlessness, anxiety, restlessness, cold clammy skin, increased heart rate, and high or low respiratory rate, one of the most important and burdensome symptoms is chest pain (9-11). On the other hand, nurses' consciousness plays an important role in the control and assessment of patients' chest pain. Gillis ML reported that nurses' knowledge about pain management can affect the final treatment outcomes (12, 13). In fact, pain control strategies, employed by nurses to manage the patients, should be applied in several implementation processes (14-16).

2. Objectives

To determine the level of nurses' awareness about pain management in myocardial infarction as a critical care is-

sue, based on the clinical data.

3. Methods

This cross sectional study consisted of 200 eligible participants, selected from the nursing community in an intensive care setting. In this setting, monitoring was defined for the professors of Shahid Beheshti University of Medical Sciences, working in the affiliated hospitals. The selected nurses almost frequently followed the hospital principles, ie, working in a specific hospital unit, completing certain projects, and reporting their consent. The exclusion criteria were defined to eliminate people who had searched or studied subjects related to the questionnaire.

In order to collect data, a 2-part questionnaire was employed. The first part involved pain management awareness and consisted of 30 questions, 11 of which were concerned with the nature of pain, 6 were related to pain assessment, and 12 accounted for both pain relief and pain management. All questions were graded on a 4-point scale.

A comprehensive knowledge-based module with a 4-point Likert scale, as well as a scale bar numbered from 20 to 60 (for true/false questions), was designed. The unanswered questions were checked by the researcher and scored 0 - 2 to match the Persian academic ranking pattern (1 to 20). Finally, a 41 - 60 average score chart and a 21 - 40 average scale bar for the scores were used for nurses (working different shifts, ie, morning, afternoon, and night), who willingly participated in this questionnaire-based study. Data analysis was performed using SPSS version 21.

4. Results

The characteristics presented in Table 1 include the mean age of the participants, as well as the frequency (percentage) of work shifts, gender, academic degree, employment resume, and type of employment. In total, 60.6% of the participants were female, and 33.88% (SD, 7.04) of female nurses were within the age range of 25 - 35 years. Also, 65.2% of the entire study sample worked in teaching hospitals.

Most nurses (about 90.1%) had a Bachelor's degree with an average work experience of an undergraduate; the mean work experience was 10.43 (SD, 7.37). In terms of nurses' first work experience, the mean value was 7.43 (SD, 5.48). Also, 48.7% of nurses were officially employed. Overall, 57.8% of the subjects did not participate in the workshop to increase their level of awareness. As a result, these nurses should attend training courses to compensate for their deficient awareness.

The results showed that 90.8% of male nurses had a high level of awareness in the community of active nurses. Also, 89.6% of contract nurses showed a high level of awareness in the workplace.

5. Discussion

In this study, MI care providers with certain demographic characteristics (eg, sex and type of employment) were monitored with respect to pain management knowledge. There was a significant relationship between nurses' awareness and the mentioned parameters. In this regard, Sloan and colleagues at the University of Kentucky showed that it is important to know how to treat MI pain. Also, it should be noticed that nurses as healthcare providers play the most important role in pain management. In order to improve nurses' skills and expertise, reduce the patients' pain, and increase the quality of their lives, it is necessary to provide training on professional pain management, especially in patients who attend special educational courses to improve their condition faster than normal hospital care routines (17).

Lai and colleagues also revealed that care provider's awareness is one of the essential components of pain management and that training nurses about this phenomenon is critical. The results showed that academic and educational curricula, such as in-service training, could have significant impacts on nurses' pain management knowledge (skills and expertise) (18). Overall, attainment of knowledge about pain management means being guided by training courses and work experience simultaneously; this will in fact make nurses' knowledge of pain relief more functional.

According to previous studies such as the one performed by Furstenberg and colleagues, an exclusive and extensive daily training program should be implemented for healthcare personnel regarding the importance of MI pain management (19). Moreover, another study, which evaluated the knowledge of Tasmanian nurses about pain management, showed that 2 groups of nurses (with moderate and especial training needs) should be provided with the latest information about pain medications and other aspects of care provision requiring further knowledge (20).

Researchers suggest that improvement of nurses' knowledge and attitude about pain relief protocols (especially in intensive care units), implementation of training courses, and appropriate selection of nurses can have strong impacts on final pain relief and efficacy of MI treatment. Presence of experienced nurses with higher educational levels, alongside young and less experienced nurses, is required in MI care provision. Also, through these measures, nurses can prevent dementia, make fewer errors, and ultimately reduce the possibility of serious and irreparable damage to patients. In addition, nursing person-

Table 1. Frequency Distribution of Nurses' Awareness in Terms of Gender

Gender	Male		Female	
Awareness	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Low	1	1.3	1	0.9
Medium	6	7.9	39	33.3
High	69	90.8	77	65.8
Total	76	100	117	100
Mean ± SD	8.67 ± 49.92		11.75 ± 46.34	
Independent t test results	t = 2.281, df = 191, P = 0.024			

Table 2. Distribution of Nurses' Pain Management Knowledge Based on Type of Employment

Type of Employment	Commission		Fixed-Term		Casual		Contract	
Awareness	**Frequency**	**Percentage**	**Frequency**	**Percentage**	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Low	1	1	0	0	0	0	0	0
Medium	29	29.9	3	11.1	8	29.6	5	10.4
High	67	69.1	24	88.9	19	70.44	43	89.6
Total	97	100	27	100	27	100	48	100
Mean±SD	11.19 ± 46.39		8.67 ± 49.92		10.78 ± 45.85		8.30 ± 51.37	
The analysis of variance results	f = 3.283, P = 0.022							

nel's satisfaction must be checked simultaneously. Provision of proper facilities, equipments, and manpower can also improve the positive attitude of nurses and ultimately lead to increased patient satisfaction (21).

The present results showed an increasing pattern of efficiency and quality in nursing services. Considering the findings on pain management in this descriptive study, which was conducted among MI care providers (nurses) with different working skills and expertise, we might be able to generalize the results to all nurses caring for MI patients. However, to obtain more accurate findings and to generalize the results to all other medical personnel, future studies with larger sample sizes are essential. Therefore, it is suggested that further research be performed on MI pain management in training centers, and clinical outcome monitoring be incorporated simultaneously. Finally, this study could encourage future research in other medical disciplines related to palliative care.

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Footnotes

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