Evaluating the knowledge of intensive care unit nursing staff

Mohammadi Gh. R.\textsuperscript{1} MD, Ebrahimian A. A.\textsuperscript{*} MSc, Mahmoudi H.\textsuperscript{2} MSc

\textsuperscript{1}Faculty of Nursing, Semnan University of Medical Sciences, Semnan, Iran; \textsuperscript{2}Faculty of Medicine, Semnan University of Medical Sciences, Semnan, Iran; \textsuperscript{*}Faculty of Nursing, Baqiyatallah University of Medical Sciences, Tehran, Iran

Abstract

Aims: Nurses with sufficient knowledge are effective in improving the quality of nursing cares especially in critical units. Knowledge is one of the most features of critical care nurses. The aim of this study was evaluation of nurses’ knowledge in critical care units.

Methods: In this descriptive-analytic study, one hundred cardiac and intensive care units' nursing staff working in hospitals affiliated to Semnan University of Medical Sciences were selected randomly. The knowledge of these nurses about critical care issues was evaluated by questionnaire and analyzed by Chi square test using SPSS 11 software.

Results: The knowledge of nurses about critical care issues was low to moderate. There was no significant difference between the knowledge mean and sex, age, setting, work station and work experience.

Conclusion: The critical care nursing staff need more and special information about their duties. So it is recommended to reduce the volume of courses according to real educational needs of nurses and pay more attention to modifying professional nursing courses in different fields and its application.

Keywords: Nurse, Knowledge, Critical Units, Nursing Cares

Introduction

Nurses are the key members of health team. Today along with the improvement of other sciences, nursing discipline is moving towards development and also evolution [1]. Intensive care units (cardiac care unit and intensive care unit) are units which nurses have important roles in them. One of the most important features of intensive unit nurses is having strong knowledge and science and nurses who doesn’t have enough knowledge shouldn’t be employed at these units[2]. Nurses are important and forgotten members of patient’s treatment but we can't ignore the nurse's role in preventing medical complications and achieving good treatment results [3]. However, different studies show that the nurses training method isn’t appropriate for increasing their skills [4, 5, 6, 7, 8, 9]. The staff should extend and organize their knowledge about nursing cares for conserving professional nursing standards and this needs continuous training during work and education [10]. The need for training of nurses is important in all occupational fields and different units and is an inevitable work but because of extra sensitivity of intensive units, training of these units’ staff is more important and vital. The consideration and discrimination of training needs is very important before training in each section and position and quality, extension and training program domain is determined with this evaluation [11]. Therefore nurses’ training program should be based on the goals for providing their future job needs because we can expect with determination of training needs that training would have positive effects on organizational goals such as better care of patients, decrease of costs and staff satisfaction [12]. Because increase of knowledge needs training and training needs determining real needs, present research was done with the goal of evaluating the knowledge of intensive care unit nursing staff in order to determine the quality of nurses training in this field.

Methods

This is a descriptive-analytical study. Research community was 100 nurses working in intensive care units of some hospitals affiliated to Semnan University of Medical Sciences. The sample size was evaluated 100 nurses according to the ranking evaluation method after determination of mean and standard deviation of scores with regard to accuracy coefficient of %95. The data gathering tool was a two-part questionnaire. The first part was related to demographic information of nurses and the second one consisted of 40 questions about nursing care of patients at intensive units. Content validity method was used for determining the questionnaire’s reliability. Therefore the questionnaire was given to nursing professors at Islamic Azad university of Semnan and Semnan University of Medical Sciences for considering the proportion of tool with research

* Correspondence; Email: abbas2ali2000@yahoo.com
Evaluating the knowledge of intensive care unit nursing staffs

goals. Repeated test method was used for achieving scientific validation by giving the questionnaire to 15 people who were related to research sample for filling it. After 15 days the questionnaire was given to that group again and its stability was achieved %81 (%81.44). Before sampling, the staffs that liked to work at intensive care units but were working in other wards because of some reasons were registered and then all intensive care units staffs and people who had registered were invited for completing the questionnaire and the questionnaire was given to them simultaneously as a formal examination. Descriptive statistics (frequency, percent, mean) and inferential statistic (Chi square test) was used for data analysis. In each field nurses who had answered less than %20 of questions were categorized as “very weak” level, between 21-40% as “weak level”, 41-60% as “moderate” level, 61-80% as “good” level and more than 81% as “excellent” level.

Results

28 percent of study units were men and %72 were women. 75 percent were formal or contract employees and %25 were staffs that were passing their training plan. 50 percent of research units at sampling time were working in intensive care units and %50 were working in other hospital wards. 49 percent of research units had work experience below 5 years, 10% had 5-9 years, %22 had 10-14 years, and 5% had 15-19 years, %12 had 20-24 years and 2% had above 25 years.

Knowledge level of 5% of research units was “very weak”, %54 was “weak", %39 was “moderate” and 2% was “good” and none of them was excellent (diagram 1). Also there wasn’t significant difference between knowledge level of research units with sex, employment state, work location and work experience (p>0.05) (table 1).

Discussion & Conclusion

General state of research units’ knowledge about nursing cares for patients at intensive units shows that %54 of research units have weak knowledge and %39 have moderate knowledge about the subject of study. The other studies confirm this too[4,6,15].the low level of research units’ knowledge at intensive care units indicates the presence of one or some common factors in occurrence of this crisis. It seems that management of nurses’ training centers along with management of training and treatment in the province have important role in this case but for showing the exact cause, more researches are needed. Seven percent of women who participated in research had “very weak” knowledge about nursing cares for patients at intensive care units. Also 57% of men and 53% of women had weak knowledge, 39% of men and 39% of women had moderate knowledge and 3.6% of men and 1.4% of women had “good” knowledge about nursing cares for patients at intensive care units. None of participators had “excellent” knowledge. Seyfabadi in a research in Kerman showed that male nurses have more knowledge than female nurses [13] but Haghi in a study showed that the knowledge of female nurses is higher than male nurses [14].

Also there wasn’t significant difference between the sex of research units with the knowledge level about the nursing cares for patients at intensive units. Dadgari showed that the sex of research units doesn’t
have correlation with their knowledge level [16]. Also Hoseynzadeh and Vatan in a similar study showed that there isn’t significant difference between sex and knowledge level [4, 6, 17]. Perhaps this is related to high number (three fold) of women in this study. Also some researchers expressed that male nurses have less interest in clinical works and try for higher education toward management and training units so that their knowledge is higher than women [6].

Most of research units including formal or contract staff and those passing their training plan had weak knowledge about nursing cares for patients at intensive units. Also there wasn’t significant difference between employment states of research units and their knowledge level. We can interpret this case in two ways: one, because the research units working as their training plan, have newly graduated (less than two years) so that maybe university education team weren’t able to supply their educational or they haven’t learned courses profoundly during their education so that after education they have forgotten the lessons. The second reason is related to educational state and the attitude toward medical centers.

Ignoring young nurses by managers especially nursing managers, don’t letting them participate in intensive important works, scolding them because of small mistakes, and extra notice to formal staff causes the decrease in exciting power among young nurses and makes them hopeless for doing works related to patients properly and improving their knowledge. On the other hand if the new staff encounters a problem or question there is no one to answer them and if a person exists, his answer may not be correct.

Most of research units who were working at intensive units had “weak” or “moderate” knowledge level about nursing cares for patients at intensive units but the staff working in other hospital wards had "weak" knowledge about it. Also no significant difference was seen between work experiences of research units at intensive care units with their knowledge level about cares for patients at intensive units. Study of Dadgari showed that there isn’t significant correlation between work experience at intensive units and knowledge level of nurses [16]. Another study has expressed that the cause of this problem is limitation in educational equipments [18]. In this research regarding the fact that research samples were selected with the equal ratio among employed and unemployed nurses at intensive care units, problems other than the number of participants affect this issue. Non specialized nursing training at bachelor section, lack of localized educational programs for nurses especially for nurses who are working at intensive units and lack of effectiveness of some of educational programs that are designed and performed just for balance representing without regarding clear educational goals by non specialized people, not paying attention to knowledge level in employment of nurses for working at intensive units ends in nurses’ loss of motivation for improvement of their knowledge.

Most of research units with different work experiences had “weak” to “moderate” levels of knowledge and just knowledge level of %4.5 of research units with work experience of 10-14 years was "good” and non of research units with different work experiences were “excellent”. Also significant difference wasn’t seen between work experiences of research units with their knowledge levels about nursing cares for patients at intensive care units. Dadgari and Vatan researches confirm this fact too [16, 14]. On the other hand some researchers have shown that there is a significant relation between knowledge level and employment years. Javaherzadeh, Mirzaei, Seyfabadi and Haghi in similar studies have shown that there is a significant relation between knowledge level of nurses at different fields and their employment years [13, 14,19 ]. It seems that the cause of paradox in previous researches is the difference of communities that samples have been chosen from. Maybe in some cases that research units have shown more knowledge about the study subject with increase of employment, this would be related to their reinforcement by better management. The other cause of significant relation between employment years and knowledge of staff wasn’t related to medical management unit but shows that the educational system of majority of staff in this research has a good quality which leads to effectiveness of them. Also in some communities perhaps both of above factors would have existed or none of mentioned factors had intervened and the reason of this event needs further study. Maybe the cause of lack of significant relation between nurses employment years with their knowledge level in this study would be related to lack of managers’ attention to different parts of treatment and training of nurses that not only couldn’t produce proper conditions for conserving or improving their knowledge level but also with improper decisions have taken the motivation and interest for increasing knowledge from them. Also sometimes employment of nurses in sensitive posts of nursing management by relationship and without attention to their ability destroys the moving ability toward success especially among young nurses and attracts their attention to increasing intra organizational relationships instead of increasing
their knowledge. Additionally perhaps young employees wouldn’t have any motivation for increasing their knowledge during education or after it. The vague occupational and social future and lack of agreement between what they learn and issues seen at patient beside could be effective in decrease of their motivation for improving knowledge. On the other hand lack of proper work opportunity and employment of nurses as training plan or contract staff causes nurses not to have any ownership sense to their work place and know it as a vague and transient situation and try to achieve managers’ satisfaction and instead of improving their knowledge.

Safavi believes that a person becomes aware of his insufficient knowledge and skill when he discriminates the need for learning new skills and accepts it with desire. If a student knows that his learning will end to knowledge and skill, learning will be a goal for him [20].

The mentioned subjects show that sex, employment state, work experience and even occupation at intensive care units don’t affect staff knowledge of this kind of units and it seems that the duties done at intensive care units nowadays is the experience of daily work. Therefore nurses of intensive care units need more information about their work field so that these cases are recommended as applied results of this research:

- Specialization of nurses at bachelor degree
- Holding classes and educational courses for intensive care unit nurses.
- Paying more attention to selection of intensive units’ staff.
- Designing policies for increasing the motivation for care giving in intensive units’ staff.
- Taking measures for improving the quality of special university courses.
- Determination of a clear administrator for training the nursing staff at university treatment deputies.

**Acknowledgement:** We thank all nursing staff of Semnan hospitals that help us in performing this research.

**References**

4- Ebrahimian AA. Evaluation of knowledge about nursing cares of patients receiving blood products and its relation with demographic variables of nursing personnel of Semnan hospitals [report]. Semnan: Azad Islamic University of Semnan; 2004. [Persian]
5- Asnashari M, Nazemi A. Students view from their taughts in BSc of nursing in nursing & midwifery faculty of Mashhad. Mashhad: 4th Seminar of Medical Education. 2000. p. 189. [Persian]
6- Babamomhamadi H. Evaluating knowledge and function of nursing personnel about blood & blood products transferring to admitted patients in Kerman University of Medical Sciences' hospitals [Master Thesis]. Kerman: Kerman University of Medical Sciences; 1999. [Persian]
13- Mirzaei Seyfabadi R. Evaluating the knowledge and function of nursing personnel about respiratory system suction in Kerman University of Medical Sciences' hospitals [Master Thesis]. Kerman: Kerman University of Medical Sciences; 1997. [Persian]
14- Haghi M. Comparing the knowledge of nurses of psychological drugs presciption in psychological hospitals affiliated to Health, Treatment & Medical Education Ministry [Master Thesis]. Tehran: Nursing & Midwifery Faculty of Iran University of Medical Sciences; 1997. [Persian]
15- Heydari M. Evaluating the knowledge of CCU nurses from heart pain induced by myocard infarction and its treatments in hospitals affiliated to Health, Treatment & Medical Education Ministry [Master Thesis]. Tehran: Nursing & Midwifery Faculty of Iran University of Medical Sciences; 1994. [Persian]
16- Dadgari A. Evaluating the knowledge of CCU nurses from preventing of intensive care units syndromes in hospitals affiliated to Health, Treatment & Medical Education Ministry [Master Thesis]. Tehran: Nursing & Midwifery Faculty of Shahid Beheshti University of Medical Sciences; 1992. [Persian]
17- Hoseinzade M. Evaluating the effect of education on nurses’ knowledge, view and skill about decreasing the damages of chemotherapy in hospitals affiliated to Health, Treatment & Medical Education Ministry [Master Thesis]. Tehran: Nursing & Midwifery Faculty of Shahid Beheshti University of Medical Sciences; 1992. [Persian]
18- Vartan A. Evaluating the knowledge, view and skill of nurses working in heart surgery critical care units about the ways of critical care of CABG patients in hospitals affiliated to Health, Treatment & Medical Education Ministry [Master Thesis]. Tehran: Nursing & Midwifery Faculty of Shahid Beheshti University of Medical Sciences; 1994. [Persian]
19- Javadzade Z. Evaluating the knowledge and view of nursing managers of hospitals affiliated to Tehran city Universities of Medical Sciences about the importance of working nurses education [Master Thesis]. Tehran: Nursing & Midwifery Faculty of Shahid Beheshti University of Medical Sciences; 1994. [Persian]