



## ASSESSING THE SCIENTIFIC COMPETENCY OF NEW GRADUATE NURSES IN JAHROM UNIVERSITY OF MEDICAL SCIENCES, SINCE 2009 TO 2016

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### ABSTRACT

**Introduction:** One of the main challenges of nursing is the performance of new graduate nurses, because their entry into the clinical situations can be opportunity or threat. The present study conducted to investigate the scientific competency of new graduate nurses. **Methods:** This is a cross-sectional study conducted at Jahrom University of Medical Sciences since 2009 to 2016. By census method, 400 new graduate nurses (70-35 annually) selected. A theoretical test (36-score) from the standardized question bank was taking in 12 areas. A demographic questionnaire was using, which was valid (CVI: .89, CVR: .93, IS 3.5) and reliable by test re-test ( $r$ : .95). Data analyze done by SPSS16. **Results:** The total mean 24.65(.037). The highest mean was related to Myocardial infarction 2.89 (0.27) and the lowest mean was related to Disaster & Triage area with 1.12 (0.45). There were a significant correlation between the gender ( $p=0.015$ ) and university ( $p=0.005$ ) and work experience ( $p=0.001$ ) with scientific competency. **Conclusion:** Several factors such as gender, university, and work experience can be involved in success in entrance exam, but paying attention to acquisitive factors such as average for selecting the new graduate nurses can be very important.

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### Introduction

Access to high quality care and safe nursing care is important and critical to society [1]. All over the world, the quality of the performance of the new graduate nurses is a challenging issue, because several factors are involved in it, as demographics factors, educational factors, environmental factors etc. Clinical competency has direct relationship with quality of clinical services and patients' safety [2]. Assessing the competency of nurses can be an important management, ethical and caring issue in every country [3-5]. there are several definitions for professional competency and nursing competency. The competency of clinical nurses are defined as a combination of skills, knowledge, attitudes, values and abilities leading to effective or high performance in occupational or professional positions [6, 7]. Studies have shown that when clinical competency of nurses is higher, the satisfaction of patients with the nursing care, satisfaction of hospital and all medical indicators will be also higher [8, 9]. Hospitals seek to improve the level of clients' satisfaction, and this is not possible except by improving and maintaining the clinical competence of nurses [10]. Clinical competency assessment can greatly guarantee patient safety in the clinic, patient satisfaction, reduce cure complications, reduce ethical, legal and moral challenges in

hospital and enhance intra and interpersonal relationship. In Iran, several new graduate nurses are adding to hospitals every year. According to the law, new graduate nurses spend their commitment (18-24 months) at the government, military or insurance hospitals. These hospitals affiliated to medical sciences universities. All new graduate nurses before hiring must spend their commitment period in hospitals affiliated to medical sciences universities. These new graduate nurse are in direct contact with all patients in general, intensive or critical care units. If the new graduate nurses do not have needed competency, it will lead into many moral, legal and therapeutic complications [11]. Thereupon clinical situation is affecting and patients or personal satisfaction will reduce. Reduce of patients and personnel satisfaction can destroy a hospital reputation, and that may be reducing hospital visits. So cash flow, reputation, success, turnover, coming back to the hospital and many more can be affect by new graduate nursing competency. Assessment of new graduate nursing competency is a main and first step to enhance all indicators as patients and personnel satisfaction. Therefore, the present study conducted to determine the scientific competency of new graduate nurses.

## Method

This is a descriptive cross-sectional study conducted at Jahrom University of Medical Sciences since 2009 to 2016. According to the university protocol, an educational booklet provided for 400 new graduate nurses who were applicant to university hospitals (Motahari hospital as gynecology, pediatric and internal center in south of Fars province, Pymanie Hospital as trauma and surgery medical center in south of Fars province. Khatamolanbia hospital as general hospital), completed a bachelor's degree in a maximum of 4 years, and were not hospital orderly and a theoretical test (four-option and 36-score, minimum passing score was 18) taken. Census sampling performed using convenient method (70-35 nurse annually). Content was prepared in 12 areas as: Disaster & Triage & mass casualty, Cardio Pulmonary Cerebral Resuscitation, Poisoning, giving medication, IV therapy, cardiac Arrhythmia, Trauma management, Myocardial Infarction & coronary vascular disease, Infection control disease, Emergency box, Nursing procedures and Communication. That booklet prepared according to national and international sources as fundamental nursing books and nursing procedures book. Six .5-point questions from any area were select from the standardized question bank at the Nursing Office. Consent obtained from nurses and they assured that the unanimous principle would observe. Demographic information of nurses was obtained through demographic questionnaire, which its content and face validity was approved quantitatively and qualitatively (CVI: .89, CVR: .93, IS 3.5) and its reliability was calculated by test re-test ( $r$ : .95). Data analyze done by SPSS16.

## Results

The mean (SD) age of nurses was 22.85 (0.61). Female nurses were 80% and 79% were single, 20% had work experience as student era and their mean (SD) of average score was 15.53 (2.68). In addition, 68% studied at Azad Universities, and the rest of them studied in government universities. {Azad universities as none governmental university in Iran had a several branches in every province. Some of these branches are allowing train nurse students according to national curriculum}. The total mean (SD) of theoretical scores in each area was 2.01 (0.29) and the mean (SD) score of the total test was 24.65 (0.37) (Table 1).

The highest mean (SD) score related to Myocardial Infarction and coronary vascular disease 2.89 (0.27) and the lowest mean (SD) score related to Disaster & Triage area with 1.12 (0.45). The passing minimum level in test was 88%. There was a significant correlation by Spearman test between the gender ( $p=0.015$ ) and university (government- Azad) ( $p=0.015$ ) with scientific competency test score. There was a significant correlation by Pearson test between student's work experience (0.001) and scientific competency test score. There were not significant correlation between married and age with scientific competency test score ( $p>0.05$ ).

## Discussion

As stated, 88% of the new graduate nurses were passé in the test, and 12% failed, despite having a bachelor's degree and having enough time to study the booklet, familiarity with the tested exam, and having updated information. Although, 12% failed are not many, but it is alarm of risk for hospital managers. As stated, these 12% failed there are not in standard status. They can reduce patients and personnel satisfaction. Therefore, may be threat patient's safety in clinical situation and make ethical, moral and medical challenge. The situation becomes worse when it comes to most universities do not assess new graduate nurses. So the number of incompetence nurses in other universities is more than it. Results of the study conducted by Vosoughi (descriptive cross-sectional) and Khosravi (qualitative content analysis) confirm the results of this study and state that clinical competency of the graduated students was inappropriate [12-14]. Waltkin concluded that the results of some studies have shown that new graduate nurses do not have the necessary skills [15, 16], and many employers believe that the readiness of new graduate nurses is not adequate at the start of their work. The challenge of nurses' transition from university to real clinical situation is a global challenge. Therefore, according to what was say, it seems that the common educational programs in universities do not provide opportunity to improve the clinical competency of the graduates.

Reviewing the curriculum at bachelor degree, the use of new educational methods and the organization of education by nursing managers in order to familiarize novice can be effective to help them go through the graduation stage to the clinical stage [10, 17]. In this regard, only paying attention to bachelor degree and graduated students who are applicant for commitment is not enough, but the role of hospitals in planning to facilitate the transition period for novice nurses should consider. Hospital managers and nursing managers must pay attention to transition concept and recommended actions. The steps taken in other studies to facilitate the transition process of the new graduate nurses are summarizing in three strategies for preparing, immersing and empowering. Preparing of new graduate nurses is very important in clinical situation for patient's safety.

The whole study can consider as a preparatory phase for the immersion of new graduate nurses. The steps taken in other studies to facilitate the transition process of the new graduate nurses are summarizing in three strategies of preparing, immersion, and empowering.

Holding a comprehensive nursing exam, holding OSCE exams at the end of the clinical courses, skill-based training, competency base training, and modifying commitment starting rules could be a good guide in this regard. As mentioned, the entrance of new graduates to clinical settings has always been a challenge for managers and nurses. Therefore, it is very important to estimate the real needs of these nurses and to pay attention to organizational needs (the needs announced by the hospital) to solve and compensation their knowledge and skills deficiencies [18]. The importance of paying attention to the real needs of new graduate nurses is so much that no educational heading and priority at the national and regional levels with any scientific approach can solve these deficiencies, because each hospital has its own organizational needs and each new graduate nursing group has its own educational needs. The point that was important about nurses' evaluation results was that despite having a bachelor's degree and studying educational booklet in areas such as trauma, resuscitation, crisis and triage, communication and cardiac arrhythmias, they obtained low point average. It is a sign of educational weakness among all graduates in these fields. It seems that new graduate nurses do not acquire the necessary abilities during their education, and this disrupts their professional readiness as novice nurses. This is a point that has been emphasizing in many studies [19, 20]. Limitations of this study contains of lack of practical evaluation, Lack of evaluation of the operating room technician and anesthesiologist technician.

Conclusion: Several factors such as gender, university and average can be associated with success in entrance exam, but paying attention to acquired factors such as the average for selecting the nurses can be very important.

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#### Conflict of interest:

none declared.

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