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IMPROVING THE NEW GRADUATE NURSES PROFESSIONAL COMPETENCY: AN ACTION RESEARCH STUDY

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ABSTRACT

Introduction: The object of this study was to improve the professional competency of novice nurses.

Methods: The present study is the first cycle of a cooperative action research, that conducted based on the Kemmis's model in four phases (assessment, planning, implementation & evaluation) at Jahrom University since 2009 to 2016. Assessment phase contained formed of project management team, situational analysis (through individual and focus group discussion interviews with patients, head nurses, nurses and novice nurses, direct observation) and problems analysis by "Why? Why?" technique, select a decision model, determining the goals of the program. Planning and implementation phase contained Determine the format, compilation and validation of the program, developing a clinical competency assessment process, preparing an educational booklet, preparing a questions bank, holding periodic theoretical exams every two months. Evaluation phase contained holding three to five FGD and six to nine individual interviews annually. **Results:** Dissatisfaction with the quality of knowledge, attitude and practice of the new graduate nurses, violation of in the law of prioritizing the novice nurses, developing competency assessment process, preparing the booklet, preparing the questions bank, and holding periodic exams were the main findings of this study. **Conclusion:** Development of structure and process of assessing clinical competency of novice nurses, developing an educational booklet, and implementing standard periodic exams although were able to reduce some of the problems of the new graduated students and provide relative satisfaction. In the other hand, improving the head nurses and patients' satisfaction from new graduate nurses was the main result of this study.

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Introduction

Today, the concern of many people in the world is access to health care with the best quality [1, 2]. In this regard, examining the competency of clinical nurses is a very important and crucial discussion [3]. The issue of the quality of providing nursing care and reporting it have always been a challenging issue, as many contributing and disturbing factors are involved in it. However, what is evident is the impact of nurses' competencies as a factor affecting the quality of care. In other words, clinical competency has direct relationship with quality of clinical services. Therefore, measuring and improving nursing clinical competency can be an important ethical, nursing, and caring management topic in the health system of every country [4-6]. Several definitions have provided on clinical competency. Clinical nurses' competency has define as a combination of skills, knowledge, attitudes, values and abilities that lead to effective performance in job or every professional positions [7, 8] Epstein and Hundert have define proper judgment and habit of using knowledge, technical skills, clinical arguments, communication, emotions, values, and rethinking in daily activities with the goal of serving the community and individuals [9, 10]. Studies have shown that there is a positive correlation between nursing competence and patient's satisfaction.

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Nowadays, health service providers increasingly need for maintaining and improving the level of client's satisfaction. This is not possible except by maintaining the clinical competency of nurses [11].

Receiving better and high quality care is the absolute right of all patients admitted to hospitals, and this is always confirmed by regulations and guidelines issued by the Ministry of Health and Medical Education or Nursing Deputy [10, 11]. Assessing and improving clinical status can greatly guarantee patient safety and prevent numerous complications. In other words, the quality of nursing cares depends on the quality of nursing staffing. Nursing clinical assessment systems is a tool for improving clinical efficacy and patient's satisfaction [8]. On the other hand, novice nurses who added to hospitals every year, always create many problems for themselves, their colleagues and patients. Management and education department should pay special attention for them. Bachelor nurses must complete their commitment according to medical and educational centers need in medical science universities. Hospitals should pay their salaries and benefits, like their official forces. Although the course of their internship is, consider as a practical educational course, they are contact directly with the patients and take responsibility for the patient's health and well-being. In the cases of lack of competence of these forces approved by medical centers, the consequences of their employment will be borne by the university, nurses, and even their direct and indirect officials. On the other hand, the dispatch of 80-100% of novice nurses can cause irreparable damage to colleagues, nursing profession, and patients. One of the main duties of nursing offices in medical deputy in every university is caring of nursing professional and nursing identity.

Therefore, the researchers decided apply a proper change in the process of implementing the Ministry of Health's legal regulations for the use of novice nurses, ensuring the quality of knowledge, attitude and practice of these individuals at the time of admission to hospitals. Therefore, the present study was conduct to improve the professional competency of novice nurses.

Methods

The present study is a cooperative action research study conducted based on the proposed model of Kemmis in the Office of Nursing in medical deputy of Jahrom University of Medical Sciences during 2009-2016.

Assessment phase was performing in 3 steps and in one year. Step one: project management team was organizing. This team contains all participants that involved with novice nurses from three hospitals. Three hospital matrons, three educational supervisors, three intensive care units' head nurses, three general departments' head nurses, and four faculty member that were experts in medical education and nursing education. All participants working full time with more than 100 new graduate nurses (recognized and presented the problems by themselves). This team held 1-2 coordination and executive sessions each week. This team holed an average of 27 sessions of 67-90 minutes per year.

Step two: Assess the current conditions through eight non-structural and semi-structural interviews with the novice nurses, managers, head nurses and patients without referral to the interviewer with open-ended questions (Mean 78 minutes). Five semi-structured focus group discussion (FGD) interviews with patients, hospital managers and nurses (Mean 105 minutes. situational analysis did by (why? why?) technique.

Step three: investigating the results of the data gathering and analysis phase, and selecting a multi-criteria decision making model with weighting and determining the goals and strategies of the program (end of assessment phase) .

The planning phase was also performing after adding three nursing professors to the team in 3 steps and in six months. Step one: Determining the format of the planning in action long-term plan with the participation of all stakeholders of the project. Step two: Developing the initial format of the program. Step 3: Validation of the program in four stages of primary sample preparation of the program, obtaining the opinions in brainstorming technique, obtaining the opinions of experts (outsiders), ultimately making the final corrections and final approving the program. Then according to the action plan, clinical competency assessment process developed. an educational booklet for the novice nurses prepared based on the latest headings of the national Nursing Board, the authoritative national and international studies, Hospitals' management demands and the nurses' duties (including: serum therapy, drug therapy, infection control, cardiopulmonary resuscitation, emergency box drugs, dangerous arrhythmias and ...).

The standard question bank under the supervision of medical education specialists and faculty members prepared. Periodic theoretical exams hold every two months for the novice nurses who are applicant to complete their commitment at Jahrom University of Medical Sciences. Main action plan was contain three plans, determine and approve new graduate nurse's assessment, preparing and validate a booklet, preparing and validate a questions bank, start the exams.

The implementation Phase: after 2 year from start this action research and run the action plan first exam hold. Then, every six months, the booklet and questions were reviewing, according to the latest legal changes and executive instructions of the hospitals and the Ministry of Health and Medical Education. The necessary changes were applying in the booklet and process, for example, change in the process of cardiopulmonary resuscitation according to the latest changes announced by the American Heart Association 2010 and 2015, or changing the contents of nosocomial infection control. Every year the difficulty level is examining and some questions from the question bank deleted.

Evaluation Phase: At the end of each year, the FGD Executive Team (3-5 sessions on average each year) with a variety of groups such as hospital nursing managers, head nurses and nurses. For ask their views to change the program. In addition,

during individual interviews (6-9 interviews on average per year), interviewed were performed with various participants, which their information was effective in improving the action plan.

Results

Regarding the necessity and importance of nursing competency assessment issue, legal problems and challenges and the lack of nursing forces are the most important obstacles in use of modern methods of assessment nurses' competency. The main theme obtained from the content analysis in preparatory phase in individual and group interviews (Table 1) included clinical inefficiency, low quality education and knowledge deficiency (Table 2). Therefore, the priority of the strategies was determined based on the multi-criteria decision-making system with weighting technique to assess the educational capability of the novice nurses. The process develops and approve experimentally in 2009 and implementing until 2011. The process was reviewed in 2012, and the developed program was approved in medical deputy of the university, which it is still being implementing with minor changes based on need.

Table 1. individual and group interviews

interviews	n	Total time (min)	Mean time	Mean work experience of participants
FGD	35	4697	116.9	6.53
Individual	62	6875	80.5	7.92
Total	97	11572	98.7	7.22

Table 2. categories obtained from the content analysis

cods	subcategories	Main category
1. Low ability to perform procedures 2. Undesirable knowledge of nursing 3. Unprofessional behavior in the clinical situations	Clinical inefficiency	Dissatisfaction with the quality of knowledge, attitude and performance of the new graduate nurses
1. Ineffective theoretical education 2. Traditional nursing education 3. Non-standard tests	Low quality education	
1. Not ready to enter hospital 2. Knowledge deficiency 3. Low self-confidence in educational discussions	Ineffective educational self-concept	

The dissatisfaction and inappropriate viewpoint of hospital personnel about the new graduate nurses involved in the hospital was a point revealed in the first six months of the study gradually in different types, and the researchers were able to document it using interviewing techniques, observation and filed note techniques. On the other hand, the most important finding was assessing the scientific competency of the novice nurses at the time of entering hospitals.

After several session and discussion on results of reviews, the assessment process (Figure 1) was valid and obtained. The necessary agreement has obtained from the university's board and medical deputy at various meetings according to the current and legal processes of the university.

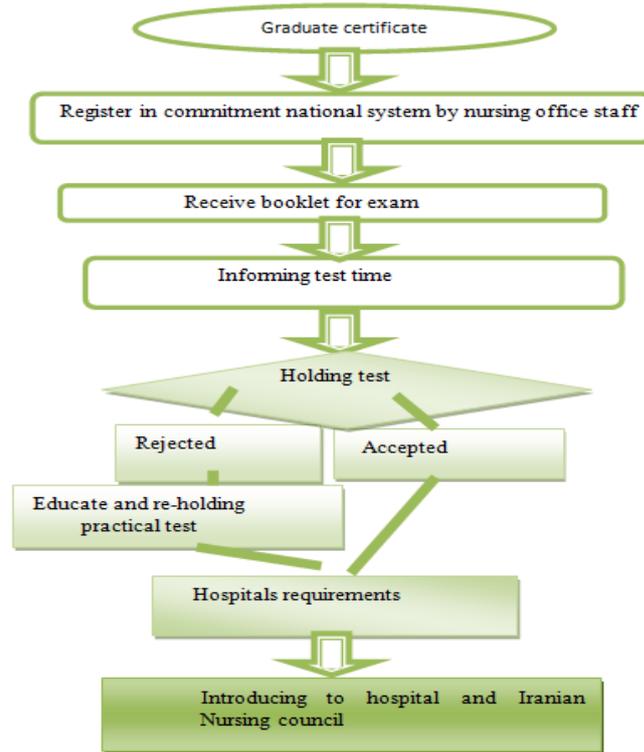


Figure 1. The process of assessment of the new graduate nurses' applicant to commitment

After provision of educational booklets by participants and supervisors of hospitals in 120-page, Periodic 36-score tests (six questions per subject, every question had .5-point) were performed. Necessary license Obtained from university's medical deputy.

87.9% of the applicants succeeded and were introducing to hospitals, annually. After 5 years from the start of the exam, according to the participant's feedbacks, the research team was convinced that the questions in each period should analyze by educational development center software and difficulty level should determine and interpreted according to the conditions.

Overall, the assessment process changed according to national guidelines such as national software of new graduate nurses.

During the feedbacks received in the implementation phase of the study, research team found that the only assessment of the knowledge of the novice nurses could not solve the problem of dissatisfaction totally. Their clinical competency should assess in this assessment process but the rules did not allow us to do this.

Therefore, a plan like replacement plan carried out during the first month of new graduate nurse attendance in hospital. That way, different individual in different wards evaluate and educate specific procedures (must learning) for novice nurses. Some of the feedbacks indicate relative satisfaction. From the result of the study was prepared a new booklet for operating room technologist and anesthesiologist new graduate. The results of the tests during the holding the course are as follows (Table 3).

Table 3. mean scores of theoretical exams of new graduate nurses

	mean	SD		mean	SD
Communication	1.75	0.14	Arrhythmia	1.13	0.87
Nursing procedures	2.33	0.01	IV therapy	2.78	0.24
Emergency box	2.01	0.23	Medication	2.45	0.18
Infection control	2.14	0.18	poisoning	2.33	0.12
Myocardial infarction	2.89	0.27	CPCR	1.48	0.51
Trauma management	1.67	0.28	Disaster& triage	1.12	0.45
Total	2.01+_0.29				

Discussion

As stated in the first part of the study, the most important finding was the low level of knowledge, attitude and practice. This finding was also reported in other studies, including the study conducted by Vosoughi et al., who reported poor clinical competency of graduates [12]. In the study of Khosravi et al., conducted through qualitative content analysis, it was found

that the professional readiness of graduate students is one of the most challenging topics [13]. The results of some studies have shown that new graduated nurses do not acquire necessary skills in the university, and that the student's abilities are far from the desired status [14]. Many employers believe that nursing graduates are not enough ready at the start of their working [15]. Based on what was say, it seems that the current educational programs do not provide opportunity to improve the clinical competence of the graduates. So 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 nurses to clinical situations can be helpful to them transition era. According to Donabedian, an incomplete structure and process cannot provide suitable results to the organization. Many studies on organizational management also emphasize that the creation of the structure can be a good start for a change [16]. Therefore, the first step in this study was prepared the structure and process for professional competency assessment. Based on review, after development of clinical competency assessment process, the source and headings needed for nurses based on fields needs (Jahrom University of Medical Sciences hospitals) should be determined. Educational content should facilitate the transition of new graduated nurses. 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 (hospital) needs to resolve their knowledge and skills deficiencies [17]. Any educational heading in national level cannot solve new graduate dissatisfaction, because each hospital has its own organizational needs, and each novice-nursing group has its own educational needs. The importance of educational evaluation is much that success and failure of any action plan cannot be achieve without it. Although there are a variety of ways to evaluate it, the use of the simplest way that understood and used by practitioners and learners seems necessary to start an action research [18]. The test should not have been rejecting, because there is no promise to reject novice nurses. So in the cases of rejection, practical education and practical test predicted.

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, CPR, disaster and triage, communication and arrhythmias, they obtained low average point. This is a sign of educational weakness among graduates in these areas. It seems that new graduated nurses do not acquire the necessary abilities during their education, and this disrupts their professional readiness as novice nurses. This is a point that emphasized in many studies [19]. The steps taken in other studies to facilitate the transition process of the new graduated nurses summarized in three strategies of preparing, immersion, and empowering. This study can consider as a preparatory phase for the immersion of new graduated nurses.

Conclusion: developing the structure and the process of clinical competency assessment, developing an educational booklet and implementing standard periodic tests could reduce some of the problems of new graduated nurses in hospitals and provide relative satisfaction. Nevertheless, there is great distance to achieve an ideal theoretical and practical competency assessment process, which it should be continue in next cycles of this action research.

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Conflict of interest: none declared.

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