



Comparative Study of Evaluating the Clinical Competence of Emergency Nurses Using Self-assessments and Assessment by Head Nurses

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Abstract

Background: Clinical competency is the ability of nurses to play a professional role in a clinical environment, in terms of the quality of the services provided.

Objectives: The present study aimed to compare the clinical competence of emergency department nurses using self-assessments and evaluations by head nurses.

Methods: A descriptive-analytical study was conducted from July to September 2019. The census method was used to select 70 nurses working in the emergency departments of three hospitals. Data was collected by using self-assessment questionnaires and evaluations by head nurses. The instrument was a clinical competency questionnaire with questions related to seven functional fields and 73 skills.

Results: The viewpoints of nurses and head nurses on the clinical competencies of nurses were assessed at a moderate level in the majority of domains. Nurses defined their clinical competencies at a significantly higher level than the head nurses ($P < 0.05$).

Conclusions: Based on the results, it is assumed that using more than one method and simultaneously applying multiple methods in an assessment will provide more accurate results about nurses' clinical competence.

Keywords: Clinical Competence, Self-assessment, Emergency Care, Head Nurses

1. Background

Healthcare providers, as the most important element of the healthcare system, are directly responsible for the maintenance and the promotion of health in human society (1). Nurses are important members of healthcare provision teams and comprise the most significant proportion of hospital staff (2). Nursing is a professional activity, given the multiplicity and complexity of the role, which requires a sense of responsibility, tact, accuracy. Any lack or inadequacy of clinical skills or professional ethics training will certainly have a significant impact on the quality and quantity of health services (3).

Nursing competency is the complex integration of knowledge that includes professional judgments, skills, values, and attitudes. It involves an ingenious, practical skill set that combines different factors and issues in com-

plex ways that are specific to each circumstance (3). Various factors, such as rapid changes in health monitoring systems and increase society's expectations of receiving high-quality services has caused special attention to be given to the adaptability and clinical competency of people working in health-related professions (4).

The role of nursing instructors in terms of theoretical teaching, clinical experience, professional growth, and the quality assurance of nursing care are among the factors that influence nursing professionalism (5). Therefore, it is important to ensure the clinical competency of nurses (6). Self-assessments are used extensively in educational programs that have adopted a problem-based, self-directed approach. Professionals, such as nurses, require self-regulation to maintain their professional competence. Nurses need to develop self-assessment skills to determine

their level of knowledge and identify knowledge gaps, as doing so helps them remain competent and safe in their practice (7). On one hand, head nurses are competent professionals who need management skills because they are working in close contact with patients and health care groups. Therefore, they are responsible for assessing and supervising the providers of direct patient care in a clinical department, and for creating a supportive environment for professional practice (8). Flott and Lindon (2016) considered the role of the environment as one of the indicators affecting clinical competence, emphasized the difference between the degree of clinical competence and the frequency of using skills in different departments and hospitals (8). Hassankhani et al. (2018) indicated that nurses in the emergency department have a lower perceived level of competence for performing the skills within the domains of effective management of rapidly changing situations and administering and monitoring therapeutic interventions (9).

2. Objectives

The lack of high-quality studies on nurses' clinical competency criteria in emergency departments, especially in Iran has motivated this study. The present study aimed to compare the clinical competence of evaluating emergency nurses using self-assessments and assessment by head nurses.

3. Methods

In this descriptive-analytical study, all staff nurses working in emergency departments of three hospitals affiliated to Dezful University of Medical Sciences, were studied from July to September 2019. Generally, from 90 nurses working in emergency department, 70 nurses were selected using census method based on entrance conditions. The inclusion criteria for the study were as follows: (1) providing written consent; (2) having a bachelor's or master's degree in nursing and having at least two years of work experience in emergency.

The research environment was the emergency departments of hospitals including Dezful (Ganjaviyan), Gotvand (Karun), and Shoush (Nezam-Mafi). After obtaining of permission from the Ethics Committee, we coordinated with nursing directors to prepare a list of permanent nurses in their department. Nurses from all emergency departments in each hospital who fulfilled the inclusion criteria

were included in the study. In the next step, two supervisors from nursing faculties held an introduction meeting for participants to explain the study's objectives, ensure the confidentiality of personal information and obtain written informed consent.

After the anonymous questionnaires were distributed among the nurses, the questionnaires were sent to head nurses. The participants were given one week to fill out and return the questionnaires. If the questionnaire was not returned after the specified period, the subject was excluded from the study. Also, questionnaires were coded and given to the head nurses. They were asked to complete them under their supervision during one week.

The data collection tool was a two-part questionnaire. The first part was related to respondents' demographic information, such as their age, gender, degree, marital status, field of study, employment status, work experience in an emergency department. The second part of the questionnaire was a nurse competence scale (NCS), which assessed the nurses' clinical competency. The NCS is based on Benner's theory as provided by Meretoja et al. (2004) and consists of 73 items that measure nurses' self-perceived competence in seven categories. These categories include the fields of patient support and assistance (7 skills), education and guidance (16 skills), diagnostic actions (7 skills), managing clinical situations (8 skills), therapeutic measures (10 skills), quality assurance (6 skills), and occupational and organizational tasks (19 skills) (10).

Self-perceived competence was measured through a visual analog scale (from 0 - 100, with 0 being a very low level of competence and 100 being a very high level of competence). Frequency of use was measured through a 4-point Likert-type scale (0 = not applicable in my work, 1 = used very seldom, 2 = used occasionally, 3 = used very often in my work). The original NCS methodology breaks the self-assessed level of competence into four overlapping integer groups: 0 to 25 is low, 25 to 50 is quite good, 50 to 75 is good, and 75 to 100 is very good.

The reliability of this tool was estimated by Meretoja et al. (2004) as having a Cronbach's alpha of 0.79 to 0.99. Furthermore, its internal consistency was reported as being between 0.79 and 0.91 (10). To compensate for the nurse's lack of English language knowledge, we used a translated form of the questionnaire. In a pilot study, the questionnaires were distributed among 30 nurses. The reliability of the translated questionnaire was between 0.70 and 0.85 in all seven areas, which is an acceptable level. This questionnaire was distributed to 11 members of the nursing faculty which confirmed its content validity. The tool's reliability was calculated using Cronbach's alpha. Likewise, the ques-

tionnaire was distributed among 30 nurses, and its reliability was calculated as 0.96.

In this study, each nurse was asked to identify their level of competence on a visual analogue scale (VAS) (0 - 100), on which values 0 - 25, 26 - 50, 51 - 75, and 76 - 100 represent weak, moderate, good, and excellent levels of competence, respectively. Moreover, nurses' clinical competence was ranked in four levels based on the frequency of actual use in clinical practice (0 = not applicable in my work, 1 = used very seldom, 2 = used occasionally, 3 = used very often in my work).

3.1. Data Analysis

The data were analyzed using SPSS software version 16. Additionally, the descriptive statistics including frequency, mean, and standard deviation were used to describe the demographic characteristics of the subjects and evaluate the clinical competencies. Furthermore, the inferential statistics including independent *t*-test was employed to compare clinical competency by self-assessment and assessment by the head nurse.

4. Results

Majority of the nurses were female, under 30 years old, single, Bachelor's degree, work experience of more than 5 years (Table 1).

The level of using the skills in clinical practice determined the minimum of nurses in field of quality assurance and maximum of nurses in field of occupational tasks in self-assessment and minimum of nurses in field of patient support and assistant and maximum of them in field of education and guides (Table 2).

The overall mean competence obtained in self-assessment was significantly greater than that calculated by head nurse assessment ($P < 0.05$). The nurses considered themselves more competent in the categories of occupational tasks. While the head nurses considered them to be more competent in the categories of education and guides (Table 3).

Pearson correlation test indicated direct relationship between the clinical competence of nurses with age, level of education, and work experience in the emergency department (Table 4).

5. Discussion

The present study compared nurses' clinical competency via self-assessments and assessments performed by

head nurses in the emergency departments of hospitals affiliated with Dezfoul University of Medical Sciences. The results indicated that the nurses of emergency departments assess their clinical competence at a significantly higher level than their head nurses in the categories of patient support and assistance, diagnostic measures, managing clinical situations, and occupational tasks.

The Flott and Lindon (2016) suggest that people tend to give themselves higher scores than others do when assessing their performance (8). The present study is not an exception to this rule, as the nurses estimated their clinical competency rating as being higher than the estimations given by head nurses. Similarly, in the studies of Mahdavisaei et al. (2016) and Kajander-Unkuri et al. (2016), nurses assigned higher scores to their clinical competencies than their managers and mentors did (11, 12). Contrary to these studies, Adib Hajbagheri and Eshraghi Arani (2018) showed that the clinical competence scores given by head nurses were higher than those given by the nurses themselves. In this regard, low expectation of head nurses related to nurses as well as supporting their nurses is recommended (13).

In the present study, most nurses assessed their clinical competence as being at a good level in the category of diagnostic measures. Meanwhile, for managing clinical situations, support and assistance, education and guidance, therapeutic measures, and occupational tasks, most nurses scored themselves at a moderate level. Finally, most nurses scored themselves within the weak level in the field of quality assurance.

Hassankhani et al. (2018) found that the overall competency of emergency nurses indicated a good level of perceived competence (9). Valdez-Delgado et al. (2019) have suggested that higher competency levels in nurses in terms of management; decision making; and continuity of care, education, and cultural sensitivity, are related to shorter waiting times for patients (14). Factors related to the work environment and the use of problem-solving skills in critical situations could result in the improvement of managerial capabilities and diagnostic measures among nurses in emergency departments (15).

The lowest self-assessment score obtained was related to the quality assurance field. These findings are similar to the results presented by Faraji et al. (2019) (16). Thus, it is necessary to train nurses how to use new research findings in a clinical setting and to observe improvements among the nurses working in emergency departments because this matter is connected to the four areas of expertise (i.e., the use of clinical research, the assessment of patient care, the use of research findings in nursing care, and the abil-

Table 1. Sociodemographic Characteristics of Nurses

Variables	Frequency	%
Sex		
Female	55	78.6
Male	15	21.4
Age		
< 30	47	67.1
30 - 39	20	28.6
40 - 49	3	4.3
Marital status		
Married	34	48.6
Single	36	51.4
Work place		
Dezful	33	47.1
Gotvand	20	28.6
Shoush	17	24.3
Education level		
Bachelor	62	88.6
Master	8	11.4
Work experience in ER (y)		
< 5	52	74.3
5 - 10	14	20.0
> 10	4	5.7

ity to identify areas related to care), all of which need to be upgraded and evaluated (17).

From the head nurses' perspectives, the highest clinical competence is related to the management of clinical situations, while the lowest competencies are related to support and assistance and quality assurance. In terms of managing clinical situations, the results presented here are consistent with those of Mahdavisae (2016) (11). This contradiction in our study may be due to the novice nurses' low levels of experience from the head nurses' perspective. On the other hand, head nurses assessed the field of support and assistance as being at a low level in comparison to the nurses' self-assessments. Oppositely, Mahdavisae et al. (2016) found that the field of support and assistance had the highest level of agreement between self-assessments and the head nurses' assessments (11).

Based on the results, significant relationships were observed between the mean self-assessment of nurses with age, education level, and work experience in an emergency

department.

Although Karami et al. (4) found no significant relationship between the mean self-assessment of nurses with marital status and education level, their results indicate that the mean score of the professional competency of married nurses was higher than that of single nurses. Regarding this matter, professional promotion and nursing competency appear to be affected by personal, socioeconomic, and cultural factors (18). Limited experience in the emergency department, the young age of the majority of nurses, and insufficient experience in dealing with the patients are among the reasons for lower competency from the head nurses' perspective.

5.1. Limitations

Some limitations of the present study are related to the low reliability of self-evaluation methods, as this kind of evaluation can be affected by the specific characteristics of individual evaluators. Furthermore, nurses' awareness

Table 2. The Assessment Level of Nurses' Clinical Competency Using Self-assessment and Assessment by Head Nurses ^a

Clinical Competencies Areas	Nurse's Self-assessment	Assessment by Head Nurses
Patient support and assistance		
Used very seldom	17 (24.3)	31 (44.3)
Used occasionally	50 (71.4)	36 (51.4)
used very often	3 (4.3)	3 (4.3)
Education and guidance		
Used very seldom	8 (11.4)	5 (7.1)
Used occasionally	49 (70.0)	57 (81.4)
used very often	13 (18.6)	8 (11.4)
Diagnostic measures		
Used very seldom	1 (1.4)	3 (4.3)
Used occasionally	29 (41.4)	41 (58.6)
used very often	40 (57.1)	26 (37.1)
managing clinical situations		
Used very seldom	1 (1.4)	2 (2.9)
Used occasionally	30 (42.9)	40 (57.1)
used very often	39 (55.7)	28 (40.0)
Therapeutic measures		
Used very seldom	2 (2.9)	5 (7.1)
Used occasionally	48 (68.6)	51 (72.9)
used very often	20 (28.6)	14 (20.0)
Quality assurance		
Used very seldom	32 (45.7)	27 (38.6)
Used occasionally	35 (50.0)	42 (60.0)
used very often	3 (4.38)	1 (1.48)
Occupational tasks		
Used very seldom	9 (12.9)	12 (17.1)
Used occasionally	51 (72.9)	51 (72.9)
used very often	10 (14.3)	7 (10.0)
Total clinical competencies		
Used very seldom	2 (2.9)	3 (4.3)
Used occasionally	58 (82.9)	62 (88.6)
used very often	10 (14.3)	5 (7.1)

^a Values are expressed as No. (%).**Table 3.** The Comparison of the Mean Score of Nurses Clinical Competency with Two Methods of Self-assessment and Assessment Performed by Head Nurses

Competency Area	Nurses	Head Nurses	Significance
Patient support and assistance	7.70 ± 1.89	6.39 ± 2.14	0.016
Education and guidance	25.14 ± 7.13	23.57 ± 5.83	0.43
Diagnostic measures	14.25 ± 3.40	11.66 ± 3.38	0.08
Managing clinical situations	16.55 ± 3.90	12.60 ± 3.26	0.001
Therapeutic measures	18.30 ± 4.81	15.96 ± 4.39	0.12
Quality assurance	6.04 ± 2.59	6.30 ± 1.72	0.69
Occupational tasks	28.85 ± 8.11	22.66 ± 6.70	0.046
The average mean score for the total competencies	116.85 ± 26.52	99.18 ± 21.98	0.001

Table 4. The Relationship Between Clinical Competence of Nurses with Demographic Characteristics in Self-assessment Method

Demographic Variables	Nurses' Clinical Competence	
	r	Significance
Gender	0.04	0.73
Age	0.245	0.034
Marital status	0.084	0.47
Education level	0.242	0.042
Work experience in emergency	0.304	0.008
Employment status	0.156	0.18

that they would be assessed by head nurses might have changed their behavior during the study period. Therefore, indirect assessment methods should be used in future studies. Due to the influences of various external and internal factors (e.g., the special conditions of emergency departments), the findings of our study cannot be generalized to other contexts. Finally, the sample size was small in order to our study was limited to emergency departments.

5.2. Conclusion

The clinical competencies of nurses were evaluated as being at a moderate level in most areas based on nurses' and head nurses' assessments. It is assumed that using more than one method and simultaneously applying multiple methods in an assessment will provide more accurate results about nurses' clinical competence. However, self-assessments lead to more awareness and attention among nurses about their own clinical competencies. In addition, the assessments by head nurses make nurses more aware of their weaknesses and strengths in different areas of clinical competence from the head nurses viewpoints. Hence, they will try to improve weaknesses in their professional competencies.

Footnotes

Authors' Contribution: Study concept and design, M. M.Gh; Analysis and interpretation of data, M. M.Gh; Drafting of the manuscript, M. M.Gh; Collected the clinical data, E.M, A.R, M.K and M.B; critical revision of the manuscript for important intellectual content, M.M.Gh; Statistical analysis, M.M.Gh and M.B. Administrative, technical, and material support and study supervision, M.M.Gh.

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