Comparative Study of the Clinical Competence of Emergency Nurses Using Self-Assessments and Head Nurse Evaluations

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Clinical competency, Self-assessment, Emergency nurses, Head nurses
Abstract

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

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

**Method:** A descriptive-analytical study was conducted from July to September 2017. 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 63 skills. The data obtained from descriptive and inferential statistics were analyzed by SPSS-16.

**Result:** The viewpoints of nurses and head nurses on the clinical competencies of nurses were assessed as being 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).

**Conclusion:** The periodic assessment of emergency nurses, as a critical part of the hospital, can guide nursing managers to pay attention to professional competence and promote continuing education programs for improving their competencies.

**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, and consciousness. Any lack or inadequacy of clinical skills or professional ethics training in this group will certainly have a significant impact on the quality and quantity of health services, and, ultimately, on the health of individuals and the community. Therefore, the conclusive goal of nursing education is to train competent and qualified nurses so that they have the knowledge and skills necessary to provide nursing care with quality and preservation, as well as to promote community health [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 complex ways that are specific to each circumstance [3]. Various factors, such as rapid changes in health monitoring systems, increase society’s expectations of receiving high-quality services. Moreover, the employment of efficient and skilled personnel has caused special attention to be given to the adaptability and clinical competency of people working in health-related professions [4].

Professional qualifications should include five characteristics: 1) nursing knowledge, 2) nursing specialty, 3) motivation, 4) personality traits, and 5) self-concept [5]. Based on Nabavi and Vanaki’s (2012) and Memarian’s (2006) studies, the role of nursing professors and educators in terms of theoretical teaching, the way these materials are to be used in the clinical environment, clinical experience, professional growth, and the quality assurance of nursing care are among the factors that influence nursing professionalism [6]. Therefore, it is important to ensure the clinical competency of nurses. From a management point of view, the development of competencies enables management.

The development of competencies modifies ability of nursing care management; it also helps nurses to understand and master new situations at work, take responsibility, and receive recognition for their actions [7]. 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 [8].

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 [9]. In Iran, Soheilipour and Farajzadeh (2016) evaluated the clinical competence of junior nursing staff based on self-assessment and indicated that the mean score of clinical competence in all nurses was considered higher than
average [9]. Furthermore, Mahdavi Saeb et al. (2016) compared the nurses’ performance by self-assessment and head nurse assessment in critical units and found that the mean evaluation scores of self-assessment in major categories of investigation are higher than those rated by head nurses [10]. Flott (2010) 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 [11]. 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 [12]. The quality of the services provided in the emergency department is important in the official evaluation of the hospital, and the evaluation of other parts of the hospital depends on the acquisition of the necessary points in the emergency unit [13].

**Aim:** The role of emergency nurses in specialty performance is crucial for improving both the quality of emergency care services to society and for nursing as a profession. The importance of the clinical competency of nurses in caring interventions under the framework of professional criteria and the lack of high-quality studies on nurses’ clinical competency criteria in emergency departments, especially in Iran has motivated this study.

**Method**

**Aim, design and setting of the study**

This descriptive study was conducted to compare the clinical competence of emergency nurses using two methods of self-assessment and assessment by the head nurse in the emergency department of hospitals affiliated to Dezful University of Medical Sciences in Iran. The research environment was the emergency departments of hospitals including Dezful Ganjouyan hospital, Karun Gatond hospital, and Nezam-Mafi hospital.

**Sample size and sampling procedure**

The statistical population included all staff nurses working in Emergency departments of three hospitals affiliated to Dezful University of Medical Sciences, which were studied for 3 months from July
to September 2017. Generally, from 90 nurses working in all emergency departments of affiliated hospitals, 70 nurses were selected using census method based on entrance conditions after explaining the goals of the study, obtaining informed consent, and ensuring the confidentiality of personal information. The entry requirements for the study were as follows: 1) providing written consent to participate in the study, 2) employment in the emergency department as Official recruitment, contractual recruitment, nursing graduate, and 3) having a bachelor’s and master’s degree in nursing and 4) having at least two years of work experience.

**Study Instrument**

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, type of university attended, and passed education courses. 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 (2002) theory as provided by Meretoja et al. (2004) and consists of 73 items that measure nurses’ self-perceived competence in seven domains.

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.

This scale has high validity and reliability and is easy to use. 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 [14,15]. Because there were no special checklists for assessing Iranian nurses’ competencies in emergency departments, this questionnaire was distributed to 11 members of the nursing faculty and reduced to 63 items, which confirmed its content validity. The tool’s reliability was calculated using Cronbach’s alpha.
questionnaire was distributed among 30 nurses, and its reliability was calculated as 0.96. The mentioned questionnaire includes items related to 63 clinical skills in seven general areas. These seven areas include the fields of patient support and assistance (four skills), education and guidance (14 skills), diagnostic actions (seven skills), managing clinical situations (eight skills), therapeutic measures (10 skills), quality assurance (four skills), and occupational and organizational tasks (16 skills). To compensate for the nurse's lack of English language knowledge, we used a translated form of the questionnaire. In a pilot study, the reliability of the translated questionnaire was between 0.70 and 0.85 in all seven areas, which is an acceptable level.

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).

Data collection

First, a formal letter of permission was obtained from the Dezful of Medical Sciences University Ethics Committee. Then, this letter of permission was submitted to each hospital’s nursing directors. After receiving acceptance of our request, we coordinated with head nurses 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 with an MSc degree in nursing held an introductory meeting for participants to discuss the study with them, explain the study’s objectives, assure the confidentiality of information (to comply with ethical considerations, the questionnaires were anonymous and encoded), obtain written informed consent, and describe how to complete the questionnaires in each of three work shifts (in the morning, evening, and night).

After the questionnaires were distributed among the nurses with the help of an assistant, the questionnaires were sent to head nurses. The participants were given one week to fill out and return the questionnaires. Two weeks were given to return the questionnaire in case of sick or other leaves,
problems, and being unusually busy. If the questionnaire was not returned after the specified period, the subject was excluded from the study.

**Ethics approval and consent to participate**

This study was approved by the Ethics Committee affiliated to Dezful University of Medical Sciences (Ethics Code: IR.DUMS.REC1396.5). In this study, researchers were committed to ethical issues of obtaining informed written consent from the participants prior to data collection, respect for voluntary participation and inform the participants about the purpose of the study.

**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 Kolmogorov-Smirnov test for normality of competence score in two assessment methods and independent t-test was employed to compare clinical competency by self-assessment and assessment by the head nurse. The level of significance was considered at 5%.

**Results**

Based on result of Kolmogorov-Smirnov test, the distribution of data related to our study hypotheses with significance level 5% was normal.

**Sociodemographic characteristics of nurses**

The statistical population of the study was as follows: 78.6% (n=55) were female nurses, 67.1% (n=47) were nurses under 30 years old, 51.4% (n=36) were single, 88.6% (n=62) had Bachelor's degree, 71.4%, 74.3% (n=52) had a work experience of more than 5 years in an emergency department, 50% (n=35) worked as nursing graduates, and the total nurses population of the emergency department of Dezful hospital was 33 nurses (47.1%). These factors are the most frequent in the statistical population of the study (Table 1).

**The assessment level of nurses’ clinical competency using self-assessment and assessment by head nurses**

In the present study, nurses assessed their clinical competency at used seldom, used occasionally,
and used very often level by 2.9% (n=2), 82.9% (n = 58) and 14.3% (n=10), respectively. In the assessment method performed by head nurses, 88.6% (n=62) of head nurses assessed nurses competence at a used occasionally level, 7.1% (n=5) at a used very often level, and 4.3% (n=3) at a used seldom level (Table 1). In addition, 72.9% (n=51) of nurses in the field of occupational tasks, 71.4% (n=50) in the field of patient support and assistance, and 70.0% (n=49) in the field of education and guidance were assessed at a used occasionally level. However, 57.1% (n=40) and 55.7% (n=39) were assessed at a used very often level in the field of diagnostic measures and managing clinical situations, respectively. On the other hand, 45.7% (n=32) of nurses were evaluated in a used very seldom level in the field of quality assurance. From the head nurses viewpoints, 81.4% (n = 57) of nurses were assessed in a used occasionally level in the field of education and guidance, 37% (n=26) were assessed in a used very often level in the field of diagnostic measures, and 44.3% (n=31) were assessed in a used very seldom level in the field of patient support and assistance (Table 2).

**The comparison of the mean score of nurses clinical competency with two methods of self-assessment and assessment performed by head nurses**

Independent T-test as a parametric test was used to compare the mean score of nurses clinical competency with two methods of self-assessment and assessment performed by head nurses. The average mean scores of clinical competencies were 116.85±26.52 and 99.18 ± 21.98 from the nurses and head nurses' point of view, respectively. This difference was statistically significant (p<0.05) based on the independent t-test (Table 2). In order to compare nurses' clinical competency by using two methods of self-assessment and assessment by head nurses, there was a statistically insignificant difference between the scores average of education and guidance, therapeutic measures, and quality assurance fields, which is not statistically significant (P<0.05). However, this difference was statistically significant in the fields of patient support and assistance, diagnostic measures, managing clinical situations, and occupational tasks. Consequently, nurses working in Emergency departments of Dezful, Shoush, and Gotvand hospitals assessed their clinical competencies in a significant higher level, compared to the assessment of head nurses, in the self-
assessment method in all fields of patient support and assistance, diagnostic measures, managing clinical situations, and occupational tasks (Table 3).

**The relationship between clinical competence of nurses with demographic characteristics in self-assessment method**

Based on the Pearson correlation test results on age, education level, and work experience in the emergency department, as well as investigating the relationship between the clinical competence of nurses with demographic characteristics in the self-assessment method, a significant relationship was observed at 0.05 significance level, indicating direct relationship between the clinical competence of nurses with age, level of education, and work experience in the emergency department. However, no significant relationship was observed between clinical competence and other components such as gender, marital status, average and employment status (Table 4).

**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 Dezful 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 results of some studies suggest that people tend to give themselves higher scores than others do when assessing their performance [10,16]. In other words, self-assessment scores are commonly different – and often higher – than the assessments of officials and head nurses. 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 Mahdavi Saeb et al. (2016) and Kajander-Unkuri et al. (2016), nurses assigned higher scores to their clinical competencies than their managers and mentors did [10,16]. However, the clinical competency of nurses was assessed at a moderate level both in self-assessments and assessments performed by head nurses in the study carried out by Kajander-Unkuri et al. Contrary to Kajander-Unkuri’s study, Adib and Eshraghi (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 [17].

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 [18]. Valdez 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 [18]. The same trend was discovered in terms of managerial ability in studies carried out by Mahdavi Saeb et al. (2016) and Soheilipour et al. (2016) [16]. 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 [19].

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) [20]. 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 ability to identify areas related to care), all of which need to be upgraded and evaluated. In addition, there is a downward trend in the use of this skill in emergency nurses due to their lack of knowledge about the meaning of quality assurance (and the related nursing skills), as well as the lack of competent and skilled people in this field [21].

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 [18]. In terms of managing clinical situations, the results presented here are consistent with those of Saeb (2016) [8,15]. 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, Saeb 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 [11,16].

By describing patient assistance for adaptation, Meretojah (2004) considered assistance tasks as a crucial nursing skill in assessing the competence of nurses; this construct partly overlaps with helping the patient and companions to make appropriate decisions [15]. 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. As a result, it can be said that more experienced nurses are more compatible with different clinical situations because they can effectively utilize past experiences.

Although Karami et al. (2017) 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 [20]. Regarding this matter, professional promotion and nursing competency appear to be affected by personal, socio-economic, and cultural factors [20]. 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. Further, using research findings for communicating with patients, as well as developing the culture of treatment in the relevant section, are factors could be affected on low assessment of head nurse’s viewpoint from nurses.

Consequently, the weakness in this area of clinical competence indicate the need for in-service training and appropriate educational workshops on critical decision making in critical situations for nurses in the emergency department.

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 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 and the shortage of registered nurses with extensive clinical experience and clinical competence), the findings of our study cannot be generalized to other contexts.

Conclusion
In the present study, the clinical competencies of nurses were evaluated as being at a moderate level in most areas based on nurses’ and head nurses’ assessments. Nurses’ ratings of their clinical competencies were higher than head nurses’ ratings. 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. 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.

Declarations

Ethics declarations

Ethics approval and consent to participate
This study was approved by the Ethics Committee affiliated to Dezful University of Medical Sciences (Ethics Code: IR.DUMS.REC1396.5). In this study, researchers were committed to ethical issues of obtaining informed written consent from the participants prior to data collection, respect for voluntary participation and inform the participants about the purpose of the study.

Consent for publication
Not application

Availability of data and materials
The datasets used and/or analysed during the current study are available from the authors on reasonable request.

**Competing interests**

The authors declare that they have no competing interests

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**Authors’ contributions**

MMGh, planned and designed the study. EM, AR, MK and MBBSH implemented sampling and intervention. MMGh, performed data analysis. MMGh, drafted the manuscript and all authors (EM, AR, MK and MBBSH) participated in discussions on definitions of working hours and interpretation of data, provided critical comments and have read and approved the final manuscript, as well as agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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**Abbreviations**

NCS: nurse competence scale

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Tables

**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      |           |    |
| <5 years                   | 52        | 74.3|
| 5-10 years                 | 14        | 20.0|
| >10 years                  | 4         | 5.7 |
| Employment status          |           |    |
| Official recruitment       | 24        | 34.3|
| Contractual recruitment    | 11        | 15.7|
| Nursing graduates          | 35        | 50.0|

**Table 2. The assessment level of nurses’ clinical competency using self-assessment and assessment by head nurses**
| Clinical competencies areas                  | Nurses self-assessment | Assessment by head nurse |
|---------------------------------------------|-------------------------|--------------------------|
|                                             | Frequency | % | Frequency | %         |
| **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       |

* The (not applicable in my work) row was removed due to zero in order to reduce the size of the table

Table 3. The comparison of the mean score of nurses clinical competency with two methods of self-assessment and assessment performed by head nurses in emergency departments of hospitals affiliated to Dezful University of Medical Sciences
| Competency area                        | Nurses          | Head nurses     | Sig.  |
|---------------------------------------|-----------------|-----------------|-------|
| 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                          | Sig.  |
| 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  |

Supplementary Files
This is a list of supplementary files associated with this preprint. Click to download.
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