

# A self-assessment Clinical Competence of Emergency Nurses at King Khaled and King Salman Specialist Hospitals in Hail, KSA

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**Abstract:** Nursing practice necessitates the application of knowledge, skills, and values in various combinations, all of which have undergone significant changes in recent decades. There is a greater emphasis on interprofessional collaboration, as well as possible new and more independent roles for nurses, especially in the emergency units. Therefore, the study aimed to assess the clinical competence of emergency nurses based on a self-assessment tool. **Methods:** a descriptive study design was applied to 87 nurses enrolled in the emergency units at King Khaled and King Salman Specialist Hospital. A demographic data sheet and clinical competency questionnaire were used for collecting data. A descriptive statistic: frequency and percentage were carried out. Results reveal that the majority of emergency nurses have a high level of clinical competency scores.

**Keywords:** Clinical Competence; Emergency units; Nursing Staff; Self-Assessment; Questionnaire; Hospitals.

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## I. INTRODUCTION

Competence is defined as the ability gained through study and practice. Competence encompasses potential abilities that may be useful in certain circumstances, as well as motivation to demonstrate the utility of such abilities. Furthermore, Nursing competency is the complicated integration of knowledge that includes practical skills that combine various issues and factors in a complex manner that is specific to each situation (Farokhzadian J, Nayeri ND, Borhani F, & Zare MR, 2015 and Fukada, M. 2018).

The Emergency Nurses Association defines competency as "serving an individual or a community through the wise and consistent application of knowledge, clinical reasoning, technical skills, emotional intelligence, and values in daily practice" (Carpenter et al., 2014). Healthcare providers, as the most important component of the healthcare system, are responsible for the maintenance and promotion of health in human society (Poursadeqiyani et al., 2020).

The scope and nature of emergency nursing practice expose practitioners to a diverse range of patient populations with rapidly changing and unexpected clinical conditions, procedures, and complex operations. Thus, emergency department nurses must be prepared to face a variety of clinical challenges and provide sufficiently and needed care to patients in a cost-effective and timely manner whereas maintaining the necessary competence. (Bam et al., 2020).

Self-assessment has been identified as the most common form of competency assessment tool because it is cost-effective and helps nurses to maintain and improve their practice by identifying their strengths and weakness areas for development. Furthermore, self-assessment enables nurses to take a more active role in the learning process, facilitating

continuous learning through the process of critical thinking (**Bahreini et al., 2011; Goliroshan S, Babanataj R, Aziznejadroshan P, 2018**).

Nurses, as members of the health-care team, provide comprehensive care that addresses patients' complex needs. They are questioned about how they can contribute to society as professionals. They are expected to take on professional responsibilities for continuously protecting individual lives, providing direct care, and supporting daily activities. Consequently, Nurses must improve their nursing competency and apply it in their daily practice to achieve this (**Fukada M, 2018**).

#### **Significance of the study:**

Nursing entails core abilities that are required to fulfill one's role as a nurse. Their clinical competency is critical, particularly in the emergency department, where they make up the majority of healthcare professionals, providing care to injured patients all over the day (**Shoqirat N, 2014**). The evaluation of nurses' clinical competence is critical for identifying areas that should be promoted and improved. Additionally, assists in determining the educational needs of nurses, besides ensuring the appropriateness of the care they provide, their performance, and quality. These tasks, are considered the primary responsibilities of nursing managers in clinical settings. (**Goliroshan S, Babanataj R, Aziznejadroshan P, 2018**). Therefore, it is important to understand the mean of their competency to establish a foundation for the nursing education curriculum. The concepts surrounding nursing competency are important for the improvement of nursing quality; however, they are still not yet completely developed. therefore, it is critical to comprehend the meaning of their competency to develop a framework for the nursing education curriculum. The clinical competency of nurses and the quality of care are strongly connected. Adding, nursing competency concepts are important for improving nursing quality; however, they have not yet been fully developed. (**Ghanbari A, Hasandoost F, Lyili E, Khomeiran R, Momeni M, 2017& Kantanen K, Kaunonen M, Helminen M, Suominen T, 2017**). Based on a comprehensive review of the previous literature, researchers have found that there is a scarcity of high-quality research on nurses' clinical competency in emergency departments. thus, they conducted this study to assess nurses' clinical competency in emergency units.

**Aim of the study:** The aim of the present study was to assess the clinical competence of emergency nurses based on a self-assessment tool.

#### **Research questions:**

- What is the level of self-competence for nurses in the emergency department at King Khalid and King Salman Specialist Hospitals?
- Is there a statistically significant difference between emergency nurses' sociodemographic parameters and their total clinical competency scores?

**The study variables were** sociodemographic data as an independent variable whereas self-assessment clinical competence was a dependent variable.

## **II. METHODOLOGY**

#### **Study design:**

A descriptive study design was applied to achieve the aim of the current study.

#### **Subjects:**

A convenience sample of 87 nurses enrolled in emergency who were accept to participate in this study units out of 103 nurses in both hospitals. This sample included 37 Nurses from Emergence Department of King Salman Specialist Hospital and 50 Nurses from Emergence Department of King Khaled Hospital. Refusing to participate in the study and Nurses on special leaves were exclusion criteria.

#### **Tools for Data collection:**

Based on a review of the literature, the researchers created a research questionnaire on electronic form. It was sent to the participants by A Google Form. It consisted of two parts:

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**Part I:** Nurses demographic data sheet including; age, nationality, gender, educational level, profession career, and experience.

**Part II:** The researchers used the clinical competency questionnaire. It developed and validated by **Liou S and Cheng C, (2014)**. It contained 46 items divided into four domains:

- a. Nurses' Professional Behaviors (16 items) like as “following health and safety percussion, understanding patients’ right, and applying critical thinking to patient care”
- b. Overall Performance of Skill Competence (12 items) like as “developing care plan, assessing nutrition, elimination, activities, and mobility”.
- c. Core Nursing Skills Competency (12 items) like as “preforming urinary catheter insertion, upper air way suction, tracheostomy care, Ryle feeding, and wound dressing”.
- d. Advanced Nursing Skills Competency (6 items) like as “administering blood transfusion, performing postural drainage, oxygen therapy, and chest tube care with underwater deal”.

### Scoring System:

The clinical competency questionnaire was scored on a two-point Likert scale to assess emergency nurses' clinical competence. The item response scores range from Zero (no evidence) to one (you know in theory, competent in practice without any supervision). The nurses’ reported clinical competency was considered highly competent if the percent of the total score is 70% or more and low competent if the total score is less than 70%.

### Tool Validity and Reliability:

Three expert professors in medical-surgical nursing specialty reviewed the tools' content validity, clarity, comprehensiveness, appropriateness, and relevance. The internal consistency of the clinical competence tool was assessed using test-retest reliability, which was achieved by administering the same tools to the participants in the same conditions. The Cronbach's alpha for the entire clinical competence questionnaire was 0.98.

### Pilot study:

To evaluate the applicability, clarity, and estimated time for filling out the tool, a pilot study was conducted on eight nurses (10%) from the emergency units, using the previously mentioned tools. Nurses who participated in the pilot study were included as main study subjects.

### Ethical Considerations:

The researchers obtained an Ethical approval from Scientific Research Ethical Committee of Hail University, the hospital directors, and the Ethics Committee for Bioethics Research in Hail Health (code: 37/2021). Furthermore, a written consent was taken from the nurses who will participate in the study through a heading question after explanation of purpose and nature of the study. The researchers informed the participants that the study was voluntary, that they could refuse to participate, and withdraw from the study at any time, without explanation. The nurses received the link and quick response (QR) code for the online questionnaire, and completed it after reading the consent form.

### Data Analysis:

The data was collected, coded, entered, cleaned, explored for missing values, and inconsistencies, identifying outliers, and analyzed using the Statistical Package for the Social Sciences (SPSS version 28) for analysis. The qualitative data was represented as a frequency and a percentage. Furthermore, mean or standard deviation, as appropriate was used to describe the quantitative data. An inferential statistics Anova test and t-test were used to determine the significant difference between the groups. The results were considered statistically significant at  $P \leq 0.05$  while highly significant at  $P < 0.01$ .

**Limitations of This Study:** Because of the use of a convenience sample, this study's generalizability is limited. Furthermore, the results are based on the nurses' self-evaluation. thus, their precision and perfection may be contested.

Therefore, the researchers recommend that the results of the self-assessment of emergency nurses' clinical competence be compared to other assessment results obtained from head nurses and coworkers from different areas in subsequent further research.

### III. RESULTS

Out of 87-emergence nursing, (85.1%) of them were female and (58.6%) were non-Saudi nurses. Adding, the mean age of the participants was 35.16 ±8.76. The majority (88.5%) of the participants were holding Bachelor degree in nursing. Furthermore, almost of the participants (92%) were working as nursing staff with experience of 5-10 years (51.7%) (Table 1).

Fig.1. shows a quarter (25.3% & 17.20%) of the emergency nurses had low competence in professional behavior and advanced nursing skills respectively. Whereas, the majority (98.90%, 81.70%) of them were highly competent in overall skill performance and Core Nursing Skills' Competency respectively.

Fig.2. highlights that the total competency score of the emergency nurses was high (89.70%).

Table1: demonstrates a high statistically significant difference between emergency nurses' total competency scores and their demographic parameters of age, gender, profession, and experience years at a p-value (<0.001).

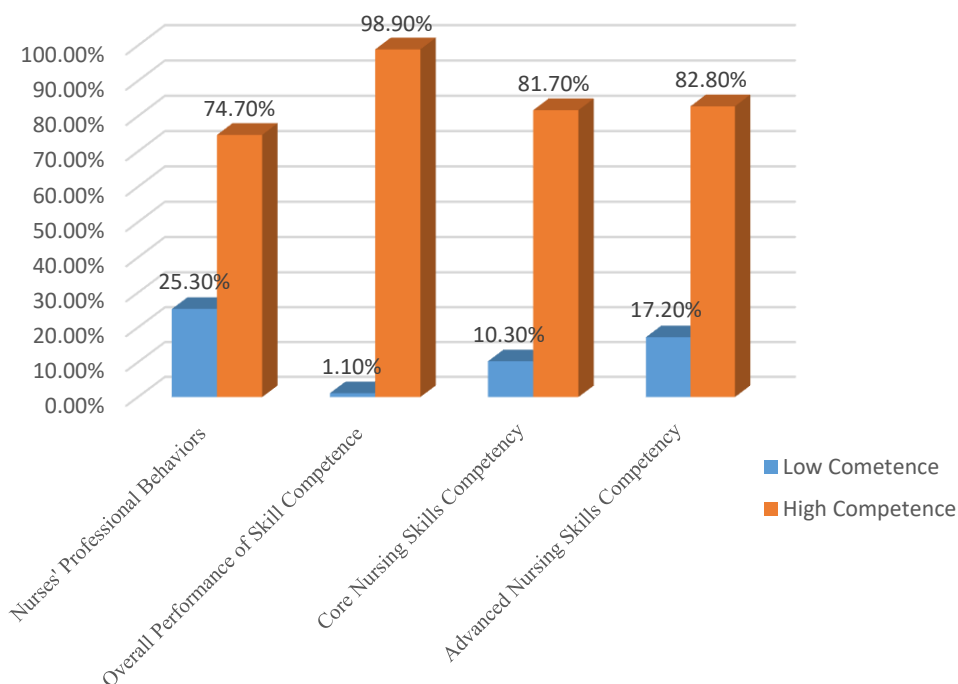


Fig. 1: Total Emergency Nurses' Clinical Competency Domain Scores

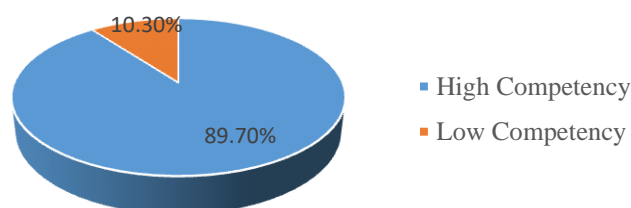


Fig. 2: Total Clinical Competency Scores of the participants

**Table 1: Relation Between Emergency Nurses’ Demographic Characteristics and Their Total Clinical Competency Scores**

Demographic parameters	Categories	Total Clinical Competency Scores		Test of Sig.	p-Value
		No.	%		
Age	< 30	39	44.8	F=5.147	0.008**
	30-	31	35.6		
	≥ 36	17	19.5		
<b>Mean ±SD. 35.16 ±8.76</b>					
Gender	Male	13	14.9	t=5.35	< 0.001**
	Female	74	<b>85.1</b>		
Nationality	Saudi	36	41.8	t=0.306	0.76
	Non-Saudi	51	<b>58.6</b>		
Education level	Diploma	9	10.3	F=0.421	0.658
	BSCs in Nursing	77	<b>88.5</b>		
	Master Degree	1	1.1		
Profession	Nursing Staff	80	<b>92.0</b>	t=4.67	< 0.001**
	Profession Career	7	8.0		
Experience	< 5 years	16	18.4	F=13.5	< 0.001**
	5-	45	<b>51.7</b>		
	≥ 10 years	26	29.9		

F: Anova test; SD: Standard deviation; t: t-test; \*\* Statistically significant at P-value <0.01

#### IV. DISCUSSION

The current study assessed the clinical competency of emergency nurses through a self-assessment tool in four domains: nursing professional behaviors, overall performance skills, core nursing skills competency, and advanced nursing skills. The results showed that the emergency nurses had a high total clinical competency score. Adding, the majority of them were highly competent in overall skill performance and Core Nursing Skills’ Competency domains. Whereas, the minority of the participants had low clinical competency in professional behavior like “applying or accepting constructive criticism and communicating verbally with precise and appropriate terminology in a timely manner with patients and families” and advanced nursing skills domain of clinical competence.

These findings are supported by (Wangensteen et al., 2018) who carried out a cross-sectional survey on 97 postgraduate nurses from five countries, their results showed the respondents rated their competence high in taking full responsibility, cooperation with other professionals, and acting ethically. Whereas they need further training on medication interaction, side effects, and how to differentiate the diagnosis. Adding, the study of (Bahreini et al., 2011) showed that the participants from two different hospitals had most competence in maintaining ethical values in their work and apply the decision making in providing the care. Whereas, the lowest competence level was observed for the utility of the participants for technology information in their work and applying nursing research results in relationship with the patients. From the researchers’ point of view, People, in fact, tend to give themselves higher ratings when evaluating their personal performance.

Nurses' clinical competence may increase as they get older and have more work experience. In this regard, the present research result demonstrated there was that a statistically significant difference between the emergency nurses’ total competency scores and their demographic parameters of age, sex, proficiency and experiences. This result in context with (Salonen et al., 2007) have found a significant relationship between the aforementioned variables. Moreover, (Adib Hajbaghery, M & Eshraghi Arani, N, 2018) found that nurses were assigned lower scoring for their clinical competency compared to those given by head nurses. Whereas, the study of (Bahreini et al., 2011) revealed no significant relationship between the mean of clinical competence and the nurses' age and current work experience.

Despite the fact that the results showed that emergency nurses have high clinical competence, in practice, continuous self-assessment is beneficial in that it raises nurses' awareness and provides guidance regarding their clinical competency. Furthermore, the assessment provides a valuable source of information for top management to make a managerial decision that takes into account the nurses’ strengths and weaknesses in various categories of clinical competencies in order to improve the nurse's performance and thus the overall healthcare quality.

## V. CONCLUSION

Based on self-assessment tools, emergency nurses' clinical competency was rated as highly competent in all categories. Furthermore, there was a statistically significant difference between the emergency nurses' total clinical competence scores and their demographic characteristics.

## VI. RECOMMENDATION

Based on the findings, the researchers recommend that clinical administrators extend the orientation period for new nursing personnel entering emergency departments in order to conduct lectures and course training to help them develop their skills gradually. Additionally, providing opportunities for emergency clinical nurses to develop their self-competence, because developing and improving their competency levels step by step is a process that necessitates lifelong learning experiences.

**Conflict of interests:** The authors confirm that they have no competing interests.

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