



ISSN: 0975-766X  
CODEN: IJPTFI  
Research Article

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## CLINICAL COMPETENCY AND ITS RELATED FACTORS IN NURSES

(Case Study: Hospitals affiliated to Zahedan University of Medical Sciences)

Roghaieh Keykha\*<sup>1</sup>, Sakineh Mazlum<sup>1</sup>, Saeideh Varasteh<sup>1</sup>, Azizollah Arbabisarjou<sup>1</sup>

<sup>1</sup>Community Nursing Research Center, Pregnancy Health Research Center, Zahedan University of Medical Sciences, Zahedan, Iran.

Email: [Roghaieh.keykha@yahoo.com](mailto:Roghaieh.keykha@yahoo.com)

Received on 06-08-2016

Accepted on 10-09-2016

### Abstract:

**Introduction and objectives:** Changes in Systems of health monitoring and the need for safe and affordable services and also increased expect of receiving services with proper quality, have considered clinical competencies of health-related professions and also clinical competency is the one of the factors influencing satisfaction and patient safety. Hence it is necessary for nurses and their supervisors to improve and evaluate their clinical competency. That it requires identifying the influencing or clinical competency related factors. Therefore, this study was conducted to investigate clinical competency and its related factors in nurses working at hospitals affiliated to Zahedan University of Medical Sciences.

**Materials and Methods:** In this descriptive - analytic study, 231 nurses were selected randomly. Research samples were nurses who were in charge of direct care for patients in one of the clinical sections. The data collection instrument was a two-part questionnaire. The first part is related to the nurses' individual characteristics and the second part of clinical competency standard questionnaire (CIRN) includes 55 items. Data analysis using descriptive and inferential statistical analysis was performed by SPSS version 17.

**Results:** Data collected showed that the majority stated that they have a high clinical competency (1.80), and also, in demographic variables there was a significant relationship between clinical competency, age and years of service.

**Conclusion:** in accordance with the results of this study, nurses with the fewer age and years of service should be considered more carefully in order to increase clinical competency by proper training and capability enhancement.

### Keywords:

Clinical competency, related factors, nurse.

**Introduction:** Various factors such as rapid changes in system of health monitoring, necessity of providing safe and affordable services, raising awareness of the society about issues related to health, increased expect of receiving high quality services along with the willingness of health providing service organizations and institutions to employ skilled labor has led to the consideration of professional clinical competency related to health more than ever. Close relationship between clinical competency and quality concept has made clinical competency in nursing as a practical field to benefit from a unique position (1). With the increasing complexity of care, interests in competency of professional nurses are increasing (2). Competency is an important factor that affecting staff development. Competencies are included knowledge, skills, values and attributes that demonstrated through behaviors that results in competent and superior performance (3). The importance of its evaluation is widely accepted in different contexts (4). Clinical competency is defined as the combination of skills, knowledge, attitudes, values and abilities that underpin effective and/or superior performance in a profession/occupational area and context of practice. Nursing competency has been raised as a quality of care issue and ensuring competency in nurses' capabilities and actual performance is a moral and legal commitment to care recipients (5). Preparing competent nurses is one of the key points of nursing care institutions and nursing education's staff (6). Some of researches have shown that, the higher the level of nurses' competency the greater would be the possibility of practical use of their skills in clinic (7). Additionally, nurses' clinical competency has been proposed as one of the factors that influence satisfaction and safety of patients. Today, safe and competent care is an expected right for societies and nurses are required to have professional competency in order to fulfill this expected right. This is a stimulus to create tools to evaluate and enhance the competency in nursing (8).

Competency review in order to enhance professional development, conformity of competencies to the needs of the patients, are useful to determine organizational performance and risk management strategies (9). In Iran, also, the necessity of attention to the issue of clinical competency is becoming of interest in recent years, because organizations providing health care services due to increased awareness and community expectations about receiving high quality services, have been forced to increase the effectiveness of their human resources. Therefore, it is necessary for nurses to improve their professional competency and also supervisors to constantly evaluate the clinical competency of nurses (10). That it requires identifying the influencing or clinical competency related factors. But in this respect various studies have been associated with different findings. For example, Gazerani et al. in a study with the title of "Spiritual Intelligence and

its relationship with clinical competence” showed that there is no significant relationship between clinical competency and individual variables (11).

Salonen et al. (2008) in a study titled as “Competence profiles of recently registered nurses working in intensive and emergency settings” found that there is a significant statistical relationship between level of competency and age, and also, years of service (12). While, Nemadi Vosoughi (2014) in assessing the clinical competence of newly graduated nurses from the supervisors’ and their own perspectives found no relationship between level of competency and age, and also, years of service (13). One of clinical competency is planning and scheduling for hardworking nurses in the different shifts(14).

Since various studies have raised different factors in relation to clinical competency, this study aimed to assess clinical competency of nurses and its related factors.

## **Materials and Methods**

This is a cross-sectional descriptive - analytical study and sampling is kind of a random clustering. Two majors hospitals affiliated to Zahedan University of Medical Sciences were chosen. The nurses selected from different wards including internal medicine, surgery, ICU, CCU, emergency, psychiatry and pediatrics. The samples were randomly selected. The samples were 231 nurses who had the inclusion criteria included: having at least a bachelor's degree or higher, at least one year working experience as a hospital nurse.

The data collection instrument was a two-part questionnaire. The first part related to the nurses' individual characteristics, including gender, age, marital status, education level, work section, work experience. The second part of clinical competency standard questionnaire (CIRN), which included 55 items and measured seven domains of clinical care, leadership, interpersonal relations, ethical performance - legal, professional development, coaching - teaching, research - critical thinking. This instrument is scored based on Likert scale ranging from 0 to 4, score of zero means incompetent, score 1: slightly competent, score 2: partially competent, score 3: adequately competent, and score 4: highly competent. Overall scoring ranges from 0-220. The high average score in any dimension also represents high competency in that dimension.

The validity and reliability of the Persian version of clinical competency of nurses was estimated in April 2014 by Ghasemi et al. evaluated. The content validity index for the entire instrument was approved by faculty members..In addition the reliability using internal homogeneity (Cronbach's alpha) for the entire instrument calculated as 0.97, and for

its dimensions ranged from 0.68 to 0.78 (13). Data analysis was performed by SPSS version 17 using descriptive statistics

(mean and standard deviation) and inferential statistics (Pearson correlation coefficient and t-test,  $P < 0.05$ ).

### Results:

Results of this study revealed that the most of nurses (81.8 %) were female and most of them (84.9 %) were 20-30 years old. Most of them (86.6 %) had BSc.N with the years of service less than 10 (48.9 %), married (72.7 %). Majority of them (17.7 %) were working at Medical Ward.

**Table-1: Frequency distribution of demographic characteristics of Nurses.**

Individual characteristics	N	Percent	
gender	female	189	81/8
	male	42	18/2
age	20-30	113	48/9
	31-40	76	32/9
	41-50	38	16/5
	More than 51	4	1/7
Education	B.A	200	86/6
	M.A	31	13/4
Years of service	Less than 10 years	113	48/9
	11 to 20	86	37/2
	21 to 30	32	13/9
Marital status	Married	168	72/7
	Single	63	27/3
Working section	Psychiatric	21	9/1
	Internal	41	17/7
	Surgery	31	13/4
	ICU	37	16/0
	CCU	32	13/9
	Emergency	38	16/5
	Pediatric	23	10/0
	Ophthalmology	8	3/5

Results of The following table shows frequency distribution of respondents based on the clinical competency standard questionnaire in hospital nurses. It showed that the highest frequency is related to high competence.

**Table-2: Frequency distribution of respondents based on the clinical competency standard questionnaire in University of Medical Sciences' hospital nurses in 2015.**

Variable	Frequency	Frequency Ratio
Incompetent	0	0/0
Slightly competent	0	0/0
Partially competent	0	0/0
Adequately competent	64	19/9

Highly competent	185	80/1
Total	231	100

Results of The following table shows that the obtained average (183.92) and standard deviation (20.75) is larger than the test's average score (137) and this difference is statistically significant by 95%. Also, according to the obtained t (132.47) with 230 degrees of freedom at 95% is larger than the critical t (1.96), therefore, the observed difference is statistically significant, and it can be concluded that the clinical competency of University of Medical Sciences' hospital nurses is at a high rate.

**Table-3: Results of One-sample t-test related to the level of clinical competency in hospital nurses.**

Variable	N	M	SD	Test T	df	p
Clinical competency level	231	183/92	20/75	137 value	132/47	230 0/000

Results of the following table illustrates the significant level of age equal to  $P = 0.005$  and significance level of years of service equal to  $P = 0.014$  which is smaller than  $P < 0.05$ . Therefore, it can be concluded that there is a positive and significant relationship between clinical competency and age, and also years of service. But, there is no significant relationship between clinical competence and demographic characteristics.

**Table-4: Results of Pearson correlation coefficient clinical competency and demographic characteristics of hospital nurses in 2015.**

Variables	N	Average	SD	Correlation	P
Clinical competency	231	183/92	20/75		
gender	231	1/81	0/38	-0/069	0/297
Age	231	1/71	0/80	0/184	*0/005
Education	231	1/13	0/34	0/049	0/461
Years of service	231	1/64	0/71	0/161	*0/014

Marital status	231	1/27	0/44	0/083	0/211
Working section	231	4/14	1/97	-0/019	0/777
Type of Hospital	231	1/96	1/27	-0/105	0/112

N =231

\* p&lt;0/05

**Discussion:**

The results of the collected data in relation to the "gender" variable showed that among respondents who were selected as the sample of hospital nurses from Zahedan University of Medical Sciences, male(18.2%)and female(81.8%). It showed that nursing profession had more interest among females. In relation to the "age" variable,48.2% of respondents are in range of 20 to 30 years old, 32.9 % are 30 to 40, 16.5 % are 40 to 50, and 1.7 % are more than 50 years old. According to the findings related to age variable it can be said that about 81.1% of nurses are 20 to 40 years old which is a favorable age range for nursing activities. The results of "education" variable illustrate that 86.6 % of nurses had B.A and 13.4% of them had MScN. Also, 48.9 % of samples had the years of service less than 10, 37.2%, and 10 to 20 years of service(37.2% ) and 13.9 % of them had 20 to 30 years of service.

Findings demonstrated that Zahedan's Hospitals are youth organizations and 86.1% of nurses had the service year of less than 20. The results of "marital status" variable illustrated that 72.7 % t of nurses were married and 27.3 % were single. The results of "working section" variable showed that 17.7 % of nurses were working in internal medicine sections, 16.5 % in emergency sections, 16 % in ICU sections, 13.9 % in CCU sections, 13.4 % in surgery sections, 10 % in pediatric sections, 9.1 % in psychiatric sections, and 3.5 % in ophthalmology sections. Results of the present study cleared that the highest numbers of the nurses are respectively engaged in sections of internal medicine, emergency, ICU, CCU, and surgery, while, the lowest numbers of the nurses are respectively engaged in pediatric and ophthalmology wards.

In a study conducted by Hajloo et al. (2013) with the aim of investigating the relationship between organizational creativity and Job stress, and the relationship between achievement motivation and organizational commitment of nurses working in Tabriz's hospitals 75 % of participants were female with the average age of 33.37 which 85 % of them got BSc,N. The results of a study titled "Perfectionism and self-efficacy of nurses in Rasht hospitals", 97% of them got

BScN, married (65%) with the average age of 33 years. There are other studies with statistically similar population in the field of nursing and which they confirmed the accuracy of distribution and recollection of the questionnaires (14).

The results of data analysis, using one sample t-test results showed that, clinical competency levels of nurses of Zahedan University of Medical Sciences are at a high rate ( $P < 0.05$ ). That this result were in line with conducted study by SALONEN et al (2008) titled as “Competence profiles of recently registered nurses working in intensive and emergency settings”, which the clinical competency of the majority of nurses was evaluated as high. In another study, similar results with this study have been obtained. Ghalje et al.(2008)in a study titled as “Association Between Clinical Competency And Patient's Satisfaction From Nursing Care” concluded that, Clinical competency of 75.5% of nurses was in the expected range and 25.5% was more than expected. Gazerani et al.(2015) in a study with the title of “Spiritual Intelligence and its relationship with clinical competence of hospital nurses in Mashhad” concluded that, regarding self-assessments, clinical competency of the majority of nurses, was in good range (10).NemadiVosoughi (2014) in assessing the clinical competence of newly graduated nurses from the supervisors’ and their own perspectives found that 76.6 percent of nurses evaluated their clinical competency as good and excellent, and 21.6 percent of them as average (12).

In a study by Ebrahimi et al (2013) by the aim of investigating Clinical competency and psychological empowerment of nurses and their correlation with demographic characteristics reported that 43 percent of nurses evaluated their clinical competency as excellent and 30 percent as good (15). Habibzadehet al, (2012) investigated the relationship between the quality of working life and clinical competency of nurses, which 35 percent of nurses estimated their clinical competency as good and 65 percent as excellent (16). Shateri(2011) by evaluating clinical competence of nurses in ICU of Tehran’s hospitals found that, clinical competencies of 22.8 percent of nurses are weak, 68 percent are average, and 9.2 percent of them are strong (17).

The results of Pearson correlation coefficient indicates that there is no significant relationship between clinical competency and demographic characteristics of gender, education, marital status, working section, and type of hospital, while there is a significant relationship between clinical competency and demographic characteristics of age and years of service, which means that, with the increase of age and years of service, clinical competency increases.

Similar research on clinical competency confirms the results of this study.

SALONEN et al (2008) conducted a study titled as “Competence profiles of recently registered nurses working in intensive and emergency settings”. In this study, 235 newly graduated nurses who were working in the emergency, and ICU sections were compared, nurses’ self-assessment of clinical competency was evaluated as moderate to good (47.3-63.7). There was a significant relationship between clinical competency and demographic characteristics of age and years of service (11).

Nemadi Vosoughi (2014) in assessing the clinical competence of newly graduated nurses from the supervisors’ and their own perspectives found that 76.6 percent of nurses evaluated their clinical competency as good and excellent, and 21.6 percent of them as average, and 2.1 percent as weak. There was no significant relationship between clinical competency and demographic characteristics of age and years of service, the reasons for the difference between the aforementioned and present study can be due to the populations of Nemadi Vosoughi’s study who were newly graduated from nursing (12).

Ebrahimi et al. (2013) in their study investigated Clinical competency and psychological empowerment of nurses and their correlation with demographic characteristics, they have found that 43 percent of nurses evaluated their clinical competency as excellent and 30 percent as good and the other as weak or moderate. Also, there was a significant relationship between years of service and clinical competency, but there was no significant relationship between clinical competency and demographic characteristics of gender, marital status, working shifts, and education (15).

### **Conclusion:**

Results of this study showed that clinical competency of nurses in Zahedan was evaluated at a high level, and also, increase in age and years of service, increases levels of clinical competency. Due to the sensitivity in the health areas, errors should get close to zero, therefore, for 20% of nurses who are not at the excellent level of clinical competency training should be provided to achieve this level. Self-care education is emphasized because it leads in active role in treatment process and accepting responsibility for individual health (18). Social networks are used for behavior improvement, educational performance and other self-care education (19). Using different strategies and styles including practical skills, indirect modeling, verbal persuasion, and motivation could be helpful in reinforcing clinical competency of the nurses. To improve clinical competency investment should be based on indexes of interpersonal relations, ethical and legal performance, professional development, coaching and training, research, and critical thinking, because strengthen these indicators increases clinical competency.

## Acknowledgments

Researchers wish to thank nurses and supervisors of hospitals affiliated with Zahedan Medical Sciences University wholeheartedly for their helpful participation, which contributed to the improvement of this research.

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**Corresponding author:**

**Azizollah Arbabisarjou,**

Community Nursing Research Center, Pregnancy Health Research Center,  
Zahedan University of Medical Sciences, Zahedan, Iran.

**Email:** [derranneh2005@yahoo.com](mailto:derranneh2005@yahoo.com)