Assessment of Clinical Competencies for Internship Nursing students Condensed Program

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Abstract:
Background: Nursing internship training is a system of instruction and experience coordinated within an academic setting and leading to the acquisition of the knowledge, skills, and attributes necessary to practice professional nursing. Assessing and improving clinical competence is a continuous and dynamic process. **Aim of the study:** Assess of clinical competencies for internship nursing students condensed program. **Research design:** A descriptive design **Setting:** Assiut University Hospitals. **Subjects:** (88) of internship nursing students condensed program **Tools:** Clinical Competencies of a Nursing Internship Observational scale. **Results:** Internship students have a fair level of clinical competence, and their training has a high effect on all their competencies. **Conclusions:** In light of the current study results, it can be concluded that the studied internship nursing students have a fair level of clinical competence. And the training of students has a high effect on all their competencies. Finally, this study emphasized that there is a highly statistically significant positive correlation between the clinical competencies score and its domains. **Recommendations:** The faculty of nursing should integrate the concepts of clinical competencies into the main values of the curriculum and apply the evaluation of nursing students by competency scale.

Introduction

Nurses are essential pillars of the healthcare system and have a vital role in delivering excellent healthcare services and promoting community health **(Al-Neyadi, et al., 2018).** They are at the forefront of patient care, and their clinical proficiency directly impacts the quality of care and patient outcomes **(Trumello, et al., 2020)**

As a result, the evaluation and enhancement of clinical competence is an ongoing and dynamic process. When assessing students in the clinical setting, it is crucial to ensure their proficiency in performing psychomotor skills while also assessing their knowledge and ability to adapt to specific clinical changes. One of the objectives of assessment is to ensure that students have acquired the necessary competencies to deliver high-quality nursing care **(Patel, 2023)**

Moreover healthcare has really changed due to issues such as disease structure changes and a fast-ageing population with decreasing birthrates. Accordingly, healthcare and care provider systems vary. Thus, nurses must provide inclusive care that meets patients' complex and various needs. Regardless of the work setting, this is required of all nurses; currently, there is a growing expectation that nurses should be able to join various sources of information and include these in their decision-making and nursing practice **(Fukada, 2018).**

Cleary, et al., (2018) cited the fact that possessing a high level of clinical competence significantly enhances nurses' performance in healthcare settings. Therefore, it is crucial for all hospitals to place continuous evaluation of nurses' clinical competence as a top priority. A significant challenge lies in the development of competent and self-assured newly graduated nurses who choose to remain employed within their respective hospitals. The global shortage of nurses persists as a prevalent issue. While there has been an increase in enrollment in nursing baccalaureate programs, the magnitude of this increase is insufficient to resolve the nursing shortage. Overall, the nursing profession prioritizes and aims for clinical competence since the quality of care directly relies on nurses' clinical competence **(Faraji, 2019).**

Nursing internship training is an educational program designed to provide a combination of instruction and hands-on experience within an academic environment. It aims to equip aspiring nurses with the essential knowledge, skills, and attributes necessary for professional nursing practice. This training is widely recognized as the most effective method for enhancing the confidence and competence of entry-level practitioners. It also contributes to the development of ethical behaviors, the acquisition of technical and managerial skills, and improvements in the quality of care provided within healthcare settings. The successful integration of these aspects is

crucial for cultivating proficient and professional nurses who can effectively meet the needs of their patients. The nursing internship training period is widely regarded as a pivotal phase in the professional journey of a recent graduate **(Ghazy, et al., 2021).**

Hence, the clinical competence of nursing interns is recognized as a dynamic factor that ensures the provision of high-quality patient care and contributes to patient satisfaction. Additionally, it serves as a crucial element for the survival and competitiveness of hospitals in today's challenging healthcare environment **(Thabet et al., 2020).** Therefore, institutions that offer nursing education and healthcare services bear the responsibility of fostering and strengthening the clinical competence of nursing internship students. Furthermore, they should establish mechanisms to identify and evaluate the level of competency among internship students **(Ghazy et al., 2021).**

As a response to the demand for faster completion of nursing degrees, condensed nursing programs have been developed to expedite the attainment of a Bachelor of Science in Nursing (BSN) or a Master of Science in Nursing (MSN) compared to traditional on-campus college programs. These programs are specifically designed for individuals who possess undergraduate degrees in other fields but aspire to transition into a nursing career. Unlike traditional semester-based schedules, condensed programs typically organize classes into quarters or sections, enabling continuous progression without extended breaks between semesters. In recent years, educational programs within the nursing profession have undergone changes to meet the evolving requirements of the labor market, which calls for a diverse range of qualified graduates to serve in healthcare institutions. One such program has been implemented at the **(Faculty of Nursing, Assiut University 2020).**

Significance of the study

In recent years, an educational program that serve the nursing profession have varied due to the constant need in the labor market for preparing a variety of qualifications and numbers of graduates to work in health institutions. This program has been implemented at the Faculty of Nursing, Assiut University, and the program has not been previously assessed. No nationally and international studies studding competencies for internship nursing students condensed program. So the researcher considered the necessity of studding this topic.

Aim of the study:
The aim of this study is to:
Assess clinical competencies for internship nursing students in a condensed program.

Research questions
To fulfill the aim of the present study, the following research question is formulated:
What are the levels of clinical competencies for internship-condensed nursing students?

Subject and method
The present study was conducted with the aim of assessing clinical competences for an internship nursing student's condensed program.

The methodology will be portrayed according to the four following designs:
1. Technical design
2. Administrative design
3. Operational design
4. Statistical design
5. **Technical design**

This design involves the research design, setting, subject, and data collection tool.

Study design:
A descriptive design was used for the present study

Setting:
The present study was conducted at Assuit University Hospitals name by:

Main Hospital: (general emergency unit, trauma emergency unit, internal trauma department, general, medical, and anaesthesia intensive care units, and trauma departments)

Pediatric Hospital: (Dialysis, Pediatric surgery department, and Pediatric emergency unit)

Al-Ragehy Hospital: (hepatology, gastroenterology, and infectious disease departments)

Women's Health Hospital: (gynecology department, emergency obstetrics and gynecology unit)

Subject:
All internship‐condensed nursing students program who began training in October 2022, number (88) students

Students' distribution according training Hospitals as following:

Hospital:	No. (88)	%
Main Hospital	44	50.0%
Pediatric Hospital	19	21.6%
Al-Ragehy Hospital	18	20.4%
Women's Health Hospital	7	8.0%

Data Collection Tool:
The tool used to collect data consisted of two parts:

Part one: Personal data includes: name, age, gender, hospital, and previous study.

Part two: Clinical competences of the nursing internship observational scale:

The tool was developed by **Thabet et al., (2020)** and modified by the researcher to assess students' clinical

competences. It includes 89 items with seven dimensions, as follows:

1. Communication and interpersonal competence (8 items)
2. Ethical behaviour competence (13 items)
3. General basic competence (21 items)
4. Core nursing skills competence (11 items)
5. Advanced skill competence (13 items)
6. Safety and infection control skills (13 items)
7. Drug administration competence (10 items)

Some sentences were separated, another sentences were also added to the dimension "Ethical Behaviors Competence," some sentences were modified to the dimension "General Competence," additionally some sentences in the "Advanced Skills Competency" dimension were modified.

Scoring system:

The participant was observed and given scores on the basis of poor clinical competence = 0, fair clinical competence = 1, and good clinical competence = 2. The total score of the observed item for each student will be summed up, and the level of clinical competence will be determined as follows:

• Poor clinical competence: less than 50%
• Fair clinical competence = 50% to 75%
• Good clinical competence = more than 75%

Administrative design:

Official approval to carry out this study was obtained from the dean of Nursing College at Assiut University, as well as from the director of Assiut University Hospitals and the heads of the departments.

Ethical considerations:

1. The research proposal was approved by the Ethical Committee at the Faculty of Nursing, Assiut University.
2. There was no risk for study participants during the application of the research.
3. Oral agreement was obtained from the participants in the present study.
4. Study participants have the right to refuse or to participate and/or withdraw from the study without any reason at any time.
5. Confidentiality and anonymity were assured, which was achieved when the study participants' privacy was considered during the collection of data.
6. The study followed common ethical principles in clinical research.
7. The data was collected by the researcher by interviewing the participants and filling out the observational checklist.

Operational design

Operational design consisted of three stages. 1st preparatory phase, 2nd pilot study, and 3rd data collection

Preparatory phase:

• This phase took about three months, from July to September 2022.
• Reviewing the available literature concerning the topic of the study.
• Face validity, the study tool was reviewed by five professors (3 from the nursing administration department and 2 from the community health nursing department) to test their comprehension of the study tool.
• Content validity is measured using a confirmatory factor analysis test.
• The data was collected by the researcher through the students' observation during clinical training.

Pilot study:

• A pilot study was carried out to assess tool feasibility and clarity and to determine the time required to fill out the observational check list. Moreover, to explore any obstacles that may be encountered during the actual data collection, It was applied to 10% of total participants (internship-condensed nursing students), 9 students working at Assiut University Hospitals, and conducted within the first week of October.
• The data collected for the pilot study was analyzed and no changes were made to the study tools, so the internship-condensed nursing students who participated in the pilot study were included in the study sample.
• The study tools were tested for reliability by using Crombach's Alpha Co- efficient test, it was efficient, and the result was **(a = 0.946)** for clinical competences on the nursing internship observational scale:

Reliability statistics of the study tools as measured by internal consistency:

Tools	No of items	Crombach's Alpha
Clinical Competences of Nursing Internship Observational Scale:		
1. Communication and interpersonal competence	(8items)	0.880
2. Ethical behaviors competence	(13items)	0.907
3. General basic competence	(21 items)	0.959
4. Core nursing skills competence	(11items)	0.926
5. Advanced skill competence	(13items)	0.924
6. Safety and infection control skills	(13items)	0.942
7. Drug administration competence	(10 items)	0.701
Clinical Competences sc	(89 items)	0.946

Data collection:

The data collected by the researcher after ensuring the clarity of the tool through an observational scale. The internship period was six months, and the students were observed three times: the first assessment at the beginning of the internship period started in the last week of October and took about one month; the second assessment after three months started in the beginning of December, four weeks later; and the third assessment took one month and a half from the beginning of March to the end of the internship period. The whole duration of data collection took six months, from the last week of October 2022 to April 2023, because of a delay in training for some students.

Students' observation in the main hospital took more time than in other hospitals due to the distribution of half the students in this hospital from the total number of students. On the other hand, students' observation in the women's health hospital took the least time due to the distribution of students in this hospital, which was less than 10% of the total students.

Statistical design:

The process of data entry and analysis was conducted using SPSS version 22, which is a statistical software known as the Statistical Package for Social Sciences. The data were presented in various formats, including the number and percentage, mean, and standard deviation. To compare quantitative variables, the Chi-Square test was utilized. For comparing quantitative variables between two groups, the independent sample t-test was employed, while the ANOVA test was used for comparisons involving more than two groups. To assess the differences between quantitative data before and after a specific intervention or assessment, a paired sample t-test was conducted. Additionally, the Pearson correlation coefficient was calculated to measure the correlation between quantitative variables. The Cohen's d factor was calculated to determine the effect size between the 2nd and 3rd assessments. A statistically significant p-value was considered when it was less than 0.05 ($P < 0.05$).

Results

Table (1): Distribution of Personal Characteristics Data of Internship Nursing Students at Assuit University Hospitals (n=88)

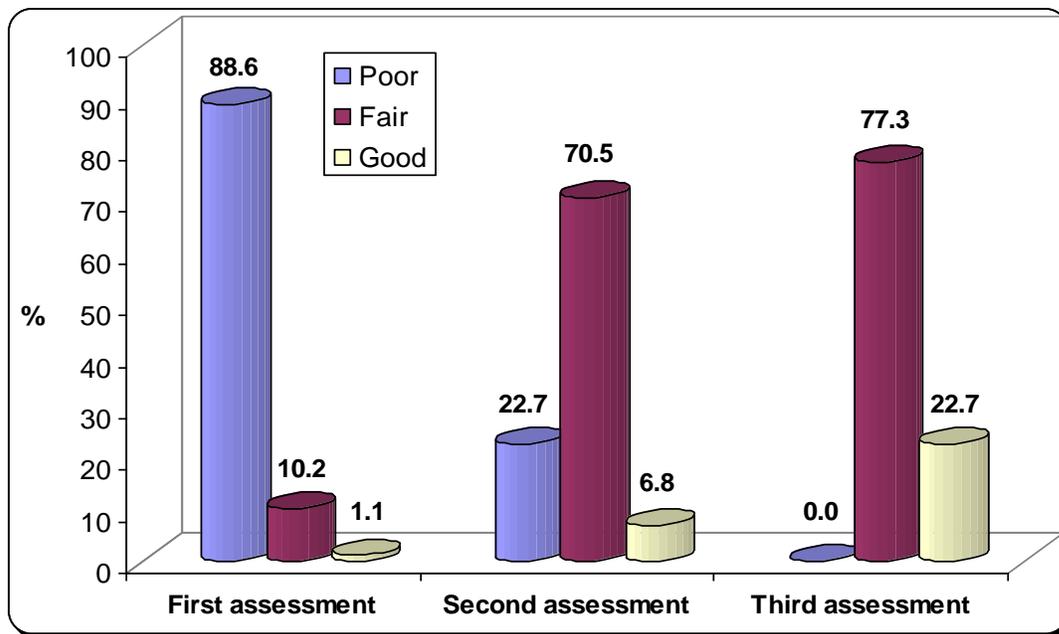| Personal data	No. (88)	%
Age: (years)		
< 30	46	52.3%
≥ 30	42	47.7%
# Mean ± SD (Range)	29.11 ± 2.32 (24.0-40.0)	
Gender:		
Male	55	62.5%
Female	33	37.5%
Training area (Hospitals):		
Main Hospital	44	50.0%
Pediatric Hospital	19	21.6%
Al-Ragehy Hospital	18	20.4%
Women's Health Hospital	7	8.0%
Previous college graduation:		
Theoretical college	37	42.0%
Practical college	51	58.0%

 # paired samples t-test

Figure (1): Distribution of Clinical competencies level of the Studied Internship Nursing Students at Assiut University Hospitals (n=88)

Table (2): Relation between clinical Competencies Score and Personal Characteristics Data of the Studied Internship Nursing students at Assiut University Hospitals (n=88)

Personal data characteristics	Clinical competencies score		
	1st assessment	2nd assessment	3rd assessment
	Mean ± SD	Mean ± SD	Mean ± SD
Age: (years)			
< 30	**62.70 ± 17.39**	100.96 ± 21.80	124.22 ± 15.52
≥ 30	71.24 ± 20.96	106.62 ± 23.46	123.05 ± 11.59
P-value	0.040*	0.244	0.692
Gender:			
Male	63.96 ± 20.38	98.96 ± 21.92	123.07 ± 14.42
Female	71.45 ± 17.35	111.48 ± 21.99	124.64 ± 12.63
P-value	0.082	0.011*	0.608
Training area (Hospitals):			
Main Hospital	65.32 ± 24.16	103.43 ± 25.48	121.93 ± 11.71
Pediatric Hospital	68.68 ± 8.98	104.42 ± 17.58	119.74 ± 11.88
Al-Ragehy Hospital	69.61 ± 17.31	99.50 ± 20.73	**129.83 ± 18.45**
Women's health Hospital	**63.43 ± 14.11**	113.71 ± 21.77	129.29 ± 11.71
P-value	0.804	0.577	0.067
Previous college graduation:			
Theoretical college	67.30 ± 21.36	96.97 ± 22.60	120.49 ± 12.86
Practical college	66.39 ± 18.32	108.51 ± 21.64	**125.96 ± 13.99**
P-value	0.832	0.017*	0.064

t-test was used

Table (3): Effect of compulsory Internship students Training on Clinical Competencies Domains in the 2nd and 3rd assessment

Domains	2nd assessment		3rd assessment	
	Effect size	Relation size	Effect size	Relation size
Communication	0.95	**High**	**0.89**	**High**
Ethical behaviors competence	0.67	Moderate	0.84	**High**
General competence	1.05	**High**	1.87	**High**
Core nursing skills competence	0.61	Moderate	1.19	**High**
Advanced nursing skills competence	0.51	Moderate	1.91	**High**
Safety and infection control skills	1.05	**High**	1.23	**High**
Drug administration competence	1.31	**High**	2.00	**High**
Clinical competencies score	1.31	**High**	2.46	**High**

Cohen's D test   *d = 0.20 indicates a small effect,*
d = 0.50 indicates a medium effect   *d = 0.80 indicates a large effect.*

Table (1): Reveals that more than a third **(62.5%)** of the studied subjects are male. And **(52.3%)** of them were less than 30 years old. And more than half **(58%)** are practical previous college graduation.

Figure (1): Illustrates that clinical competency level in the first assessment is poor **(88.6%),** and the lowest percent in the third assessment is poor **(0.0%).**

Table (2): Demonstrates that in the 3rd assessment, the highest mean score of clinical competencies of students assigned to Al-Ragehy Hospital is **(129.83 ± 18.45)** and previous educational graduation (practical college) is **(125.96 ± 13.99).** And there are statistically significant differences between the three assessments.

Table (3): Shows that in the second assessment after students' training for three months in the different departments, the impact of the training was high in acquiring the following competencies: communication, general competence, safety and infection control skills, drug administration competence, and clinical competencies score. Moreover, in the 3rd assessment at the end of training, the impact was high in ethical behaviour competence, core nursing skills competence, and advanced nursing skills competence.

Discussion

The assessment of clinical competence is crucial in ensuring the competence and capability of healthcare professionals to deliver safe and effective patient care. It serves as a valuable tool for identifying areas for improvement and supporting continuous professional development **(López-Pereira & Arango-Bayer, 2017).** Moreover, there is a national and international requirement to enhance the quality of nursing care services and reduce morbidity and mortality rates among patients. In achieving this goal, nurses play a pivotal role and should emphasize their contribution. While nursing internship students may have limited clinical competence experiences at present, numerous studies have emphasized the significance of acquiring these skills to become professional and competent nurses **(Luctkar-Flude et al., 2013).**

Figure (1): Depicts that the majority of internship students had a fair level of total clinical competencies. **From the researcher's perspective**, these findings suggest that internship students possess a moderate level of competence, which can be attributed to their limited experience in working with and interacting with patients in a nursing capacity. As they are still in the learning phase, they continue to function more as students than fully-fledged nurses. Furthermore, the heavy workload of healthcare providers leaves little time to support and guide internship students, hindering their opportunity to master clinical nursing competencies.

Consequently, students require a greater sense of autonomy. This finding aligns with **Benner's theory (1984),** which postulates a positive and systematic relationship between the extent of experience and individual competence. Additionally, **Takase (2012),** who explored the relationship between nurses' competence levels and their clinical experience, found that the length of experience positively influenced nurses' level of competence.

These results are also consistent with **Aboshaiqah & Qasim (2018),** who emphasized the importance of competence (knowledge, skills, and attitude) in the practice of nursing within healthcare settings. Similarly, **Thabet & Dakrory (2020)** reported similar results in their study, where the majority of internship students exhibited a fair level of total clinical competencies. Other studies, such as **Bifftu et al. (2016) & Soroush et al. (2016),** also assessed nursing students' clinical competence and found that a significant proportion had a moderate level of competence.

In contrast, **Notarnicola et al. (2018)** reported that nursing students demonstrated a good level of clinical

competencies. **Faraji et al. (2019)** found that nearly two-thirds of nurses exhibited a good level of clinical competency, while **Albagawi et al. (2019)** highlighted that the nursing students they studied demonstrated a high overall level of clinical competence. On the other hand, **Ubas-Sumagasyay & Oducado (2020)** found that new graduate nurses possessed a high level of clinical competence.

Table (2) as regard to relation between clinical competencies score and personal characteristics data showed that the students who had previous practical graduation had the highest mean score in clinical competencies in Alrajhy Hospital. **From the researcher's point of view,** this may be due to the management system of that hospital, which provides a suitable learning environment. Moreover, nursing supervision creates the best learning opportunity.

These results might be attributed to the speed of learning and the ease with which students engage in clinical skills because practical experience has a positive effect on students' perceptions and language. This finding is in line with **Faraji et al. (2019),** who cited that the increasing educational level of nurses leads to an increase in clinical competence. The study result declared that there were no higher or lower clinical competencies differences between male or female students. This finding is supported by **Faraji et al. (2019),** who showed no statistically significant relationship between the mean clinical competence and the variable of gender. It is believed that clinical competence is a skill that all nurses, whether men or women, should have. Moreover, there is no difference in students ages. This result is not consistent with the findings of the study by **Adib-Hajbaghery and Eshraghi-arani (2018),** who cited that, when student age increases, their clinical experience will also increase.

Table (3): As regard to the effect of compulsory internship students training on clinical competencies domains in the 2nd and 3rd assessment showed that effect of internship training on clinical competencies domains in the second assessment after students' training for three months in the different departments, the impact of the training was high in acquiring the following competencies: communication, general competence, safety and infection control skills, drug administration, and clinical competencies score. The training played a major role in improving the students' practical skills and giving them self-confidence in their professional abilities. While the theoretical study differs from the reality of the nursing internship period, which encounters many differences between expectations of the work environment and the actual situation within the hospital,

This finding was consistent with **Walton et al., (2018),** who indicate that the transition from student nurse to practical nurse is a challenging situation as nursing interns change the stability of being students and deal with the new duties and responsibilities of a practical nurse. **Murray et al., (2018)** discovered that new graduates often struggle to perform their job duties accurately when they enter the practical workforce, indicating a need for additional training in various clinical settings.

Similarly, **Qiao, et al., (2011)** observed that when internship students begin their professional practice, they realize that applying what they learned in the academic setting differs from the realities of the clinical field. This highlights the disparity between theory and practice. In the researcher's perspective, other aspects that were not improved include students' fear of making mistakes, inadequate support from hospital administrators, and the limited duration of training.

However, during the third assessment at the end of the training period, there was a significant improvement across all competencies. From the researcher's viewpoint, this improvement can be attributed to the extended duration of training and the repetition of nursing tasks and procedures, which ultimately enhance students' skills and competence.

Conclusions:

In light of the current study results, it can be concluded that the studied internship nursing students have a fair level of clinical competence. And the training of students has a high effect on all their competencies. Finally, this study emphasized that there is a highly statistically significant positive correlation between the clinical competencies score and its domains.

Recommendations:

Based on the findings of the present study, the following recommendations are proposed:

1. The faculty of nursing should integrate the concepts of clinical competencies into the main values of the curriculum and apply the evaluation of nursing students by competency scale.
2. Clinical competence should be assessed regularly in a clinical setting to explore individual learning needs for continuing education.
3. Workshops should be informed regularly to improve the student's clinical competence in a clinical setting.
4. Improve the supervision system to students
5. Increase the training period to one year.
6. Use a variety of learning strategies to help the students acquire skills and knowledge innovatively.
7. Reflection of internship students about the competencies they have acquired
8. Consequently, detect the strengths and weaknesses in the training period.

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