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# Assessing Clinical Competencies of Intern Nursing Students: A Comparative Study in both Private and Governmental Health Sectors

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## ABSTRACT

**Aim:** This study aimed to assess the clinical competence of nursing intern students in both private and governmental health sectors and then to compare the clinical competency of intern students in both sectors. **Subjects and Methods:** Descriptive cross-sectional comparative research design was used. This study was conducted at two health sectors in Egypt, including governmental sectors (Teaching Hospital and Menoufia University Hospital in Shebin El-Kom, Menoufia Governorate, and Naser Institute) and private sector (El-Salam International Hospital, International Medical Center, and Omoma Hospital). The participants of this study included all intern students ($n$ = 105) enrolled in the internship program during the academic year 2017–2018 at the Faculty of Nursing, Menoufia University. **Tool: First tool:** Self-Assessment Clinical Competence Questionnaire was used to conduct this study. **Second Tool:** Clinical competence questionnaire was used as an observational checklist to observe the actual clinical competence level of the intern students. **Result:** The highest percentage of the studied sample achieved an excellent level of competence at both hospitals regarding all competency domains. However, the general performance domain of competency had the highest score. **Conclusions:** There were statistically significant differences between both hospitals (governmental and private) regarding all competency domains, as the majority of intern students at the private hospitals achieved an expert competence level than intern students at the governmental hospitals.

**Keywords:** Clinical competency, Nursing intern students, Private and governmental health sector

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## Introduction

Nursing agenda is greatly concerned with developing and accessing competence. Reviews of competence concluded that no single definition is accepted nationally; thus, competence might represent potential to perform, not actual performance.

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The Nursing and Midwifery Council defined competence as skills and capacity to practice safely and effectively while there is no supervision. Clinical competency is outlined as the ability to unravel complex problems employing a combination of knowledge, attitude, and practical skills, and its goal is to assess practical capabilities of medical students in varied fields so as to satisfy the requirements of public service.[1]

To be a clinically competent clinician, one should have the ability to provide safe care and a capability to accurately assess and critically suppose through the most effective choices for care using evidence-based practice. Furthermore, clinically competent student/nurse has the ability to apply metacognitive judgment through a demonstration of understanding self-knowledge, applicable knowledge, and self-evaluation, whereas incorporating attributes such as effective communication, efficient time management, and delegation in their clinical practice.[2]

Nursing education should foster clinical competence as a fundamental goal which includes the ability to apply professional knowledge and skills, communication and social skills, and advanced problem solving and decision-making skills.[3] Assessing clinical competence that aimed to identify areas that require improvement moreover determining the educational needs of nurses should be taken into account because of the most vital responsibility of managers in clinical settings.[4]

Recently, attaining an entry level of clinical competency through nursing education and paying attention to the clinical competence of nurses are a necessary foundation of the nursing profession, due to the multiplied community awareness and expectations concerning receiving high-quality services, paying attention to the clinical competence of nurses has become more paramount.[5] According to the Australian Nursing Association, nursing students should have enough consciousness concerning their professional qualifications when graduating and their attitudes toward acquiring necessary competencies ought to be positive for their clinical performance to be effective.[6]

Health care is provided through public and private providers. The private health sector provides varied services and distinctive learning opportunities thus contributing to clinical education and training of nursing intern students. There are essential differences between the public and private hospital sectors which produce valuable opportunities for education and training.[7] Factors that affect the private sector's capacity to provide education and training include (a) the admitted patient profile and treatments provided, (b) the staffing profile, and (c) funding models.[8]

## Four ways for nurses to maintain clinical competency[9]

### *Commit to lifelong learning*

The nursing career requires lifelong learning that motivates nurses to continuously demonstrate commitment to enhance their competence and to ensure that their competencies are updated according to the current nursing practices.

### *Attend conferences and seminars*

The conferences provide nurses with the opportunity to meet inspiring speakers, experts, and professionals from different nursing specialties and backgrounds. The nurse can further develop networks with other nurses and health-care professionals, allowing them to exchange ideas and concepts and keep updated on the most recent innovations in nursing care and education.

### *Get a certification in specialization*

Being certificated in specialization provides patients with a lot of trust within the skills and talents of a nurse who is certified in their specialization. Employers will also be more persuaded to hire a nurse with a valid certificate within the areas of specialization that they are looking for, validating the nurse's knowledge and demonstrating their initiative in taking charge of their education.

### *The role of employers and the government*

Promoting the nurse's credentials of the knowledge, skills, and personal attributes that they need in the nursing field is the responsibility of employers. Similarly, the government conjointly plays a paramount role through organizing and retaining nursing programmers to support nurses in reinforcing their clinical competencies.

## Significance

Competency measurements that predict job performance could increase the probabilities that a remedial action will be identified and will increase job performance of trainees who had low scores on end-of-training competency tests.[10] Intern students during the internship program offered by the faculty of nursing are assigned to both private and governmental hospitals through which students were exposed to different practice environment that may affect their competency level. Consequently, the aim of that study was to assess clinical competence of intern nursing students in both private and governmental health sectors and then to compare the clinical competency of intern students in both sectors, through the following objectives:

- Assessing intern students' level of clinical competencies in private sectors.
- Assessing intern students' level of clinical competencies in governmental sectors.
- Comparing levels of clinical competencies of intern students at private and governmental sectors.

## Theoretical framework: Stages of clinical competence acquisition[11]

### *Benner's application to nursing of the Dreyfus model of skill acquisition*

Benner applied skill acquisition model to explain the nurse progression level during their practice from novice to expert.

## Three Competency levels: Novice/advanced beginner

*Novice/advanced beginner: (marginally acceptable performance)*

They start to spot clinical situations. They are unable to possess a comprehensive view of a new clinical case and the absence of critical approach.

*Competent*

They are attentive to all relevant aspects of a situation; they are ready to articulate their actions in the form of medium and long-range goals or plans. They have the competencies to critically, consciously, and analytically grasp matters and to form plans.

*Proficient/expert*
Intuitive understanding of every scenario, they have the ability to provide the necessary intervention and evaluation in an accurate and rational manner on the health-care problem; they possess a deep knowledge of the situation as a whole. Highly skilled, they use analytic tools when a new situation presents itself.

## Subjects and Methods

### Study design

A descriptive, cross-sectional, comparative, quantitative study design was employed.

### Study setting

This study was conducted at two health sectors in Egypt, including governmental sectors (Teaching Hospital and Menoufia University Hospital in Shebin El-Kom, Menoufia Governorate, and Naser Institute) and private sectors El-Salam International Hospital, International Medical Center, and Omoma Hospital).

### Study sample

The participants of this study included all intern students ($n$ = 105) enrolled in the academic of internship program during the year 2017–2018 at the Faculty of Nursing, Menoufia University.

### Data collection tool

#### *First tool*

Self-assessment clinical competence questionnaire was used to conduct this study that was developed according to Patricia Benner's "from novice to expert" model and provided a basis for interpreting our study results.
In this study, the questionnaire consisted of two parts, first part included sociodemographic data such as age, gender, marital status, residence, having periodic educational program, and having extra shifts and the second part contained four main competency components that delineated specific competencies required for nursing pre graduates: (a) Nursing professional behaviors, which includes 16 competencies; (b) general performance, which includes 12 competencies; (c) core nursing skills, which includes 12 competencies; and (d) advanced nursing skills, which includes 7 competencies consisting of 47 items.

#### *Second data collection tool*

To ensure more validation to the collected data, the researcher used clinical competence questionnaire as an observational checklist to observe the actual competency level of the intern students on an individualized basis with each nursing intern during their clinical practice in the clinical setting by the researcher.

#### *Scoring system of the tool*

The original instrument ranged responses on a 5-point Likert scale to measure the clinical competence level of upcoming baccalaureate nursing graduates. The scale item response scores range from 1 (do not have a clue) to 5 (known in theory, competent in practice without any supervision). Total scores range from 47 to 235, with a higher score indicating a higher level of competence.
In this study, the researcher applied some modification to the scale to become a 3-point Likert scale named as 1 (novice), 2 (competent), and 3 (expert), indicating that 1 referred to the student require learning and development relating to most or all aspect of this competence, 2 referred to the student require learning and development relating to some aspect of this competence, and 3 referred that the student was confident and can effectively demonstrate her/his knowledge, skills, and performance relating to this competence.
Total score ranged from 47 to 141. The scoring system was as follows: From 1 to 47 indicating the novice level, from >47 to 94 referred to a competent level, and from >94 to 141 showed a competent level.

#### *Validity and reliability of the tool*

The validity and reliability of the study tool were evaluated in a cross-sectional study by Liou and Ching,[12] who found that the Cronbach's alpha for the entire 47-item Clinical Competence Questionnaire was 98. Tools were tested for content validity by a jury of five experts in the field of nursing administration to ascertain relevance and completeness.

### Pilot study

Before actual data collection, a pilot study is conducted by the researcher by distributing self-administered questionnaire on 10% of the study sample (12 students) from different clinical areas who were not included in the main study sample to fill out the questionnaire to ascertain clarity and applicability of the study tool and to determine obstacles that may be encountered during data collection.

### Procedure

Actual data collection process started after 6 months of the internship year from March 2018 to August 2018 to ensure that intern students overcame the reality shock that might be experienced by them at the beginning of engaging in the clinical field and rotated on many clinical areas that might provide them with different clinical practice and impacted their level of clinical competence.

**Data were collected by the researchers using two methods**

***First***

Administering self assessment clinical competence questionnaire to the intern nursing students to be filled out during their clinical practice.

***Second***

The nursing interns were instructed to deal with all clinical situations freely without any tension and instructed to take all care decisions as they used to do in the presence of the researchers who observed the nursing intern students' skills. Each observation conducted at different times through different shifts.

**Ethical considerations**

A letter of approval was secured from the Dean of the Faculty of Nursing to the Head of the Hospitals, in which the study was conducted. The participants were asked for the approval for their participation. The researchers clarified to the participants that their participation in the study is optional and they are able to withdraw from the study at any time. Furthermore, it was explained to the research subjects that anonymity and confidentiality will be guaranteed and no names on the questionnaires will be written.

**Data analysis**

The collected data was refined by the researcher for any repeated or missed responses, then computerized, coded, analyzed, and tabulated. The researcher utilized Statistical Packages for the Social Sciences, Version 20.0 for Windows, and Microsoft Excel Spreadsheet Package (Office 2010) for result analysis of the study. Data were expressed as number and percentage (*n* and %) and analyzed by applying Chi-square test. All these tests were used as tests of significance at $P < 0.05$ in the current study.

**Results**

Table 1 displays the distribution of sociodemographic characteristics of the studied sample. As shown in Table 1, the highest percentage of the studied sample was between the age of 22 and 24 years in both governmental and private hospitals. Regarding gender, the highest percentage of the studied sample was female. In addition, the highest percentage of the studied sample was single at the private hospitals. More than half of the respondents were rural residence at both private and governmental hospitals. The majority of respondents who did not attend any periodic in-service training programs were in the governmental hospitals. The highest percentage of the studied sample who worked overtime was in private hospitals. Table 2 illustrates association between sociodemographic characteristics of the studied sample and their total level of clinical competence. As indicated from Table 2, there was a statistically significance between nursing intern students' socio-demographic data such as (gender, marital status, and working overtime) and their level of clinical competence.
Table 3 shows the frequency distribution of the studied sample according to their total level of clinical competence. As revealed from Table 3, the highest percentage of studied sample achieved an expert level of the general performance of clinical competence regarding all clinical competency domains.
Table 4 displays the frequency distribution of the clinical competence level for the studied sample of both hospitals. There were highly significant differences between both

**Table 1:** Distribution of sociodemographic characteristics of the studied sample (*n*=105)

| Subjects' characteristics | Governmental (*n*=54) | Private (*n*=51) | *P* value |
|---|---|---|---|
| Age (years) | *n* (%) | *n* (%) | |
| 22–24 | 75.9 (41) | 64.7 (33) | 0.2 |
| >24 | 24.1 (13) | 35.3 (18) | |
| Gender | | | |
| Male | 27.4 (14) | 27.7 (15) | 0.5 |
| Female | 72.6 (37) | 72.2 (39) | |
| Marital | | | |
| Single | 90.1 (46) | 51.8 (28) | 0.000 |
| Married | 9.9 (5) | 48.2 (26) | |
| Residence | | | |
| Rural | 54.9 (28) | 53.7 (29) | 0.9 |
| Urban | 45.1 (23) | 46.2 (25) | |
| Periodic in-service training program | | | |
| Yes | 39.2 (20) | 11.1 (6) | 0.000 |
| No | 60.8 (31) | 88.9 (48) | |
| Working over time | | | |
| Yes | 70.5 (36) | 27.7 (15) | 0.000 |
| No | 29.5 (15) | 72.3 (39) | |

**Table 2:** Association between sociodemographic characteristics of studied sample and their total level of clinical competence (*n*=105)

| Items | Novice | competent | Expert | Chi | *P* value |
|---|---|---|---|---|---|
| | *n* (%) | *n* (%) | *n* (%) | | |
| Age (Years) | | | | 1.6 | 0.9 |
| 22–24 | 7 (6.7) | 13 (12.4) | 54 (51.4) | | |
| >24 | 3 (2.9) | 6 (5.7) | 22 (20.9) | | |
| Gender | | | | 13.1 | 0.001 |
| Male | 3 (2.9) | 5 (4.7) | 21 (20) | | |
| Female | 7 (6.7) | 14 (13.3) | 55 (52.4) | | |
| Residence | | | | | |
| Rural | 5 (4.7) | 10 (9.6) | 42 (40) | 0.1 | 0.9 |
| Urban | 5 (4.7) | 9 (8.6) | 34 (32.4) | | |
| Marital | | | | 13.1 | 0.001 |
| Single | 5 (4.7 | 11 (10.5) | 58 (55.3) | | |
| Married | 5 (4.7) | 9 (8.6) | 17 (16.2) | | |
| Periodic in-service training program | | | | 6.4 | 0.04 |
| Yes | 0 (0) | 8 (7.5) | 18 (17.1) | | |
| No | 10 (9.6) | 11 (10.5) | 58 (55.3) | | |
| Working over time | | | | 13.1 | 0.001 |
| Yes | 0 (0) | 7 (6.7) | 44 (41.9) | | |
| No | 10 (9.6) | 12 (11.4) | 32 (30.4) | | |

hospitals (governmental and private) regarding all clinical competency domains.

Table 5 shows correlation between total score of self-assessment questionnaire and observational checklist. As revealed from Table 5, there was no statistical difference between total score of self-assessment questionnaire and observational checklist.

Figure 1 shows the frequency distribution of the clinical competence level for the studied sample at both hospitals. As presented in Figure 1, the majority of intern students at the private hospitals achieved an expert level of competence than intern students at the governmental hospitals.

**Table 3:** Frequency distribution of studied sample according to their total level of clinical competence (*n*=105)

| Items | Novice | Competent | Expert |
|---|---|---|---|
| | *n* (%) | *n* (%) | *n* (%) |
| Nursing professional behavior | 11 (10.5) | 32 (30.5) | 62 (59) |
| General performance | 11 (10.5) | 22 (20.9) | 72 (68.6) |
| Core nursing skills | 19 (18.1) | 23 (21.9) | 63 (60) |
| Advanced nursing skills | 37 (35.2) | 13 (12.4) | 55 (52.4) |
| Total | 19 (18.1) | 16 (15.2) | 70 (66.7) |

## Discussion

Developing equipped and confident new graduate nurses who can commit to their health care organizations is a significant challenge. Researchers attributed the nursing competency to the chemistry between the nurse and patient, and nursing students could achieve highly competence levels through their own interpersonal skills, knowledge, and potential to rise upward using learned practical and theoretical knowledge to enrich own experience as part of care values.[13] Today, the healthcare needs of the population are more varied and complex, requiring a differentiated and focused response to the specific needs of each individual. Those needs which have changed drastically over time have to be met through increasing competent authorities capable of playing an energetic role in the complex organizational context, of which they are a part.[14]

The aim of that study was to assess clinical competence of intern nursing students in both private and governmental health sectors and then to compare the clinical competency of intern students in both sectors. It was once evident from the results of this study that the highest percentage of the studied sample was between the ages 22 and 24. Most of the participants were females that was parallel with the study by AL-Mahmoud[15] and Fathi and Anwar[16] who revealed that about two-thirds of participants (61.33%) had been in their early 20's and most of them (77.33%) were females and that was contradicted with Bifftu *et al*.[17] who concluded that the majority of the study individuals176 (75.2%) had been male. As well, in the current study, the very best share of the studied sample had been single that was in congruence with Bifftu *et al*.[17] where 224 (95.7%) of participants were single and that result was contradicted with Fathi and Anwar[16] who found that greater than one-half of their studied sample (56.66%) were married. In addition, more than half of the respondents in this study were rural residence in both private and governmental hospitals, which supported by Fathi and Anwar[16] who found that the majority of the subjects (74%) were from rural areas.

Regarding the relationship between the total level of clinical competence of intern nursing students and their

**Table 4:** Frequency distribution of clinical competence level of studied sample at both hospitals (*n*=105)

| Items | Governmental *n* (%) | Private *n* (%) | Chi | *P* value |
|---|---|---|---|---|
| Nursing professional behavior | | | | |
| Novice | 9 (16.6) | 3 (5.9) | 33.6 | 0.000 |
| Competent | 23 (42.5) | 10 (19.6) | | |
| Expert | 22 (40.7) | 38 (74.5) | | |
| General performance | | | | |
| Novice | 11 (20.3) | 0 (0) | 30.5 | 0.000 |
| Competent | 19 (35.1) | 3 (5.9) | | |
| Expert | 24 (44.4) | 48 (94.1) | | |
| Core nursing skills | | | | |
| Novice | 11 (20.3) | 0 (0) | 24.4 | 0.000 |
| Competent | 18 (33.3) | 5 (9.8) | | |
| Expert | 25 (46.2) | 46 (90.2) | | |
| Advanced nursing skills | | | | |
| Novice | 11 (20.3) | 0 (0) | 31.9 | 0.000 |
| Competent | 25 (46.2) | 7 (13.7) | | |
| Expert | 18 (33.3) | 44 (86.3) | | |
| Total | | | | |
| Novice | 10 (18.5) | 0 (0) | 28.1 | 0.000 |
| Competent | 17 (31.5) | 2 (3.9) | | |
| Expert | 27 (50) | 49 (96.1) | | |

**Table 5:** Correlation between total score of self-assessment questionnaire and observational checklist (*n*=105)

| Items | Novice *n* (%) | Competent *n* (%) | Expert *n* (%) | $X^2$ | *P* value |
|---|---|---|---|---|---|
| Self-assessment total score | 10 (9.5) | 19 (18.1) | 76 (72.4) | 5.5 | 0.06 |
| Observation checklist total score | 11 (10.5) | 22 (20.9) | 72 (68.6) | | |

sociodemographic characteristics, the result of the present study showed that there was a statistically significance between nursing intern students' socio-demographic data such as (gender, marital status, and working overtime) and their level of clinical competence and that result was disagreed with AL-Mahmoud[15] who proven that there had been no statistical relationships between studied respondents' demographic traits (age, area and marital status) and their scientific competence dimensions. Furthermore, Abbas *et al*.[13] results confirmed that the clinical competence of female nursing students was higher than male students. However, Rheaume *et al*.[18] cited a statistical significance between age and the total level of clinical competence.

These findings might be accounted for that male nursing students are more motivated to join the different clinical practice in the different hospital immediately after finishing the second academic year in the faculty, so they might enrich their clinical experiences and have early engaged in the clinical field which might contribute to raising their level of competence. In addition, single nursing students had the enthusiasm and motivation to enhance their clinical practice through engaging in different clinical settings and educational workshops than married students who might be overloaded by numerous social responsibilities.

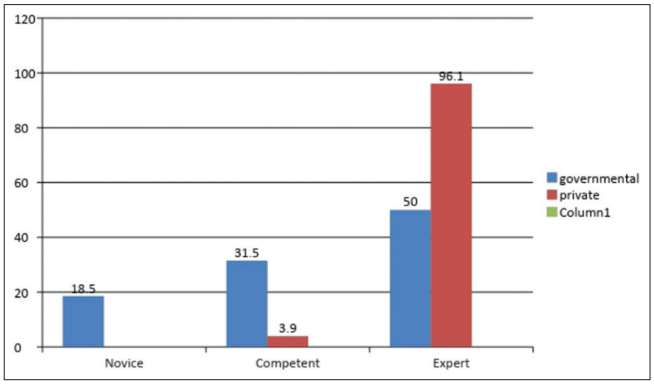


**Figure 1:** Frequency distribution of clinical competence level of the studied sample at both hospitals

In addition, intern students in private hospitals were provided with the opportunity of working overtime, thus exposing to a variety of clinical practices and achieving statistically significant differences in their competency level than those who did not have extra work shifts.

According to the frequency distribution of the studied sample according to their total level of competence, the result of the present study revealed that the highest percentage of the studied

sample achieved an expert level of the general performance of clinical competence compared to other competency domains. The result of a present study supported by the findings of Children's National Medical Center[19] which mentioned that the perfect percentage of the studied sample completed excellent level of the general performance of clinical competence, in which the internship program presents the newbie nurse with the information base and talent set needed to transition to competence in clinical nursing practice. Furthermore, that finding could be attributed to the fact that all items on the general performance level are frequently practiced by the students during their clinical practice of previous academic years; thus, the majority of students in both private and public hospitals achieved an excellent level in that domain. This study result contradicted with AL-Mahmoud[15] who tested that the very best mean rating is for interpersonal and communication skills dimension while general overall performance had the lowest suggest scores.

The result of the present study revealed that there were highly significant differences between both hospitals (governmental and private) regarding all clinical competency domains which was in the identical line with AL-Mahmoud[15] who situated that there was a notably statistically enormous correlation between all clinical competence dimensions. This finding out about result contradicted with Tzeng[20] who found that no statistically significant correlations are documented between total clinical competence dimensions.

The result of the present study reported that the majority of intern students at the private hospitals achieved an expert level of competence than intern students at the governmental hospitals. The result of the current study was similar to Arrigoni *et al*.[21] who assessed the degree of clinical competency in two private quarters in contrast with the governmental area and reported that the level of clinical competence in the non-public quarter had an excessive degree of clinical competence than the governmental sector. In addition, that finding was constant with the results of the survey by Buchanan *et al*.[22] who showed that private hospitals play the main function in education and coaching and see this investment as strategically important and the private health centers invest in the existing and the future health-care workforce. On the contrary, Shahla *et al*.[23] found that no statistical correlations were documented between non-public and governmental sectors according to intern students' level of clinical competence.

In Egypt, the rigorous accreditation and quality assurance programs of the health-care system might account for that result in both health-care sectors. Creating a professional nursing practice work environment that allow nurses to practice to their full potential, and according to their expectation as professionals, may be a fruitful strategy for nurse managers and administrators to attract and retain nurses, promote their commitment to the organization and improve their outcomes.[24]

Ensuring professional development of nurses in the professional practice environment is the ultimate goal which can be achieved through providing orientation programs, in-service training opportunities, and continuing learning experiences for new nurses.[25]

However, in private hospitals, all clinicians must adhere to standardized care protocols that guide their clinical practice and contributed to quality patient care and nursing competence. In addition, the health-care delivery system in these hospitals allowed for more autonomous practices. Intern nursing students in private hospitals had extensive education and training program before engaging in the internship programs which equip them with the necessary knowledge and skills that are updated and evidence-based to ensure that they are clinically competent to care for the diverse patient population. On the other hand, governmental hospitals, which have essential role in teaching nursing students, limit the opportunity for them to acquire necessary knowledge and skills as in these hospitals nursing intern students not allowed to practice autonomously but as assistances to the nursing staff.

## Conclusions

In the light of the present study, it can be concluded that the highest percentage of the studied sample achieved an excellent level of competence at both hospitals regarding all competency domains. However, the general performance domain of competence had the highest score. In addition, there were statistically significant differences between both hospitals (governmental and private) regarding all competency domains, as the majority of intern students at the private hospitals achieved an excellent competence level than intern students at the governmental hospitals.

## Recommendation

According to the current study findings, the researcher recommended that:

1. Further studies are recommended (qualitative and quantitative) to deeply assess factors that affect the competence level of intern nursing students at both governmental and private hospitals.
2. Adopt a clinical competency questionnaire as an assessment tool for evaluating the clinical performance of the intern nursing students during the internship program.
3. Provide various training opportunities at different private hospitals, thus contributing to boosting their practical performance and developing their competencies before going out to the labor market.
4. Provide the orientation program for new nursing graduates at the government hospitals to improve their level of clinical learning experiences according to Benner's "from novice to expert" model.
5. Participation in extra skills laboraaatories - especially during orientation period - through which students are required to master basic procedures before practicing on patients, to develop confidence and build independence and competent professional skills.
6. Simulations are also mandatory and are carried before

each training period with the aim of training the students' for real-life situation.

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**Conflicts of Interest**

This study has some important limitations that should be kept in mind when interpreting the results. First, the cross-sectional nature of the study design does not confirm definitive cause and effect relationship. Second, the clinical environment is measured with one item that may not address the different dimensions of clinical environments that may lack an important variable which can impact the competence of students.

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