

New Graduated Nurses' Knowledge about Patient Safety at Main Mansoura University Hospital



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ABSTRACT

Background: The orientation program raises the degree of knowledge that newly graduated nurses need to provide better patient care and safety. This study **aimed** to assess the level of patient safety knowledge held by new graduated nurses at Main Mansoura University Hospital. **Design:** The study used a quasi-experimental research design. **Setting:** Main Mansoura University Hospital's departments participated in the study. **Subject:** All newly graduated nurses (n = 80) who were on duty at the Main Mansoura University Hospital at the time of data collection were included in the study. **Tool:** Orientation program Knowledge test about patient safety. **Results:** After three months of the program, the largest percentage of recently graduated nurses (98.8%) had a satisfactory level of understanding. However, the lowest percentage (42.5%) of them had inadequate pre-program knowledge, and there was statistically significant variation in the newly graduated nurses' levels of patient safety knowledge throughout the training program at (Q / p 45.39/0.000**).

Conclusion: the post immediately and after three months follow-up phases following the implementation of the orientation program have effectively increased the newly graduated nurses' knowledge regarding patient safety in hospitals. **Recommendations:** development of formal education programs and the continuous upgrading of newly graduated nurses' knowledge about patient safety.

Keywords: New Graduated Nurses, Orientation Program, Patient Safety.

Introduction:

Newly graduated nurses (NGNs) experience a difficult transition from student to professional nurse after graduation. As they adjust to their new organizations and occupations, NGNs experience emotional and mental challenges. Among the stressors that have already been discussed in the literature include waiting for the results of the National Council Licensure Examination (NCLX), moving out and living independently, and adjusting to the changing demands of work. According to (Pertiwi, & Hariyati, 2019), all of these new tasks frequently cause tension and worry.

For newly graduating nurses in any hospital, orientation and training are a must. Without it, many things may and do happen that could be harmful and could harm the hospital as well as the newly graduated nurses. Recognizing and accepting that orientation and training are separate functions with distinct roles and responsibilities inside the hospital is essential. The process of explaining a new graduate nurse's job responsibilities and how to carry them out is known as orientation. Contrarily, The process of gaining the specific abilities needed to carry out the work duties outlined in the orientation is known as training (Khalik, Asbar, & Elihami, 2020).

Orientation is the planned procedure that introduces recently graduated nurses to their jobs, their colleagues, and the culture of the institution. The majority of hospitals offer an orientation program for newly graduated nurses that is overseen by the general manager. Competent new graduated nurses must be hired in order to manage and operate a hospital. The necessary skills, knowledge, talents, and competences for nurses to work are uncommon. In order to obtain the essential skills, information, talents, and competences as many nurses completed extensive training in order to be able to significantly contribute to the hospital's growth (Nelson, 2020).

Because of the ongoing changes in the health care industry, the need for a better knowledge of the needs of nurses learners, and the expense of replacing newly graduated nurses, orientation programs must be regularly updated (Toussaint, Griffith, & Shortell, 2020). Updates to programs should include new or changed rules and procedures, modifications to evidence-based practice, and informatics improvements (Hanna et al., 2021). Comprehensive, engaging, and encouraging knowledge sharing and integration are all requirements for effective nursing orientation programs (Cuddy, 2015). Additionally, orientation gives supervisors and caregivers the opportunity to

continuously work on minimizing and improving medical errors (**Gholami et al., 2021**).

From the viewpoints of the hospital and the newly graduated nurses, orientation serves a variety of functions and has a wide range of implications. A formal orientation program is recommended by the hospital in order to retain and encourage nurses, lower turnover, boost productivity, boost morale among nurses, enhance learning, and lessen new nurses' fear (**Cuddy, 2015**). In order to promote nurse retention and monitor program outcomes for cost effectiveness, hospitals must improve their orientation programs (**Ruff, 2021**). Additionally, to construct "defenses" that will alter the current system of operation in order to lessen the probability of failure, to study the possibility of failure, and to provide a safe environment for patient safety (**Fracica, & Fracica, 2021**). Additionally, to guarantee that new graduated nurses comprehend and remember the protocols for patient safety (**Cuddy, 2015**).

As it relates to newly graduated nurses, offer orientation and training on "big-picture" hospital concerns such as structure, ethics, policies, mission, values, vision, and security. Yearly, a sudden inflow of nurses affects several hospitals. To ease this transition and get recently graduated nurses off to a great start right immediately, an efficient nurse orientation can be very beneficial (**Hamilton, 2019**).

To assist new graduates in adjusting to their hospital surroundings and in understanding and practicing their duties, successful new graduated nurses orientation programs are necessary (**Kwaghe et al., 2021**). Regarding patient safety initiatives, it's critical to comprehend challenges and opportunities from the viewpoints of front-line healthcare providers (**Gutberg, Berta, 2017**). Building a patient safety culture is therefore necessary for improving patient safety in terms of risk and outcomes within a healthcare system. A strong patient safety culture is necessary to improve patient safety and improve the standard for patient care (**Zhang, Liao, Zhou, & Liu, 2020**).

Additionally, give newly graduating nurses the chance to familiarize themselves with the standards, culture, and organization of the hospital. New graduated nurses can learn what is required of them by the hospital and what they should anticipate from the hospital during this period (**Cuddy, 2015**). The hospital, the nurses, and their requirements must all be taken into account for a nursing orientation program to be successful. The overall hospital plan should include the orientation program (**Hampton, Smeltzer, & Ross, 2021**).

The most crucial element of health care is thought to be patient safety. It is a worldwide problem that impacts nations at all stages of development (**Kuriakose et al., 2020**). The most widely used definition of a safety culture was developed by the nuclear installation safety advisory committee. Individual and group beliefs, attitudes, perceptions, abilities, and behavioral patterns that comprise the safety culture define an organization's commitment to health and safety management as well as its style and level of expertise in this area (**Hayashi et al., 2020**).

Patient safety has the potential to assist risk management efforts by introducing fresh approaches to problem-solving and new methods of comprehending how things go wrong. The distinction between addressing issues and enacting change to create a safer environment is one of the basic contrasts between risk management and patient safety (**Smith, & Plunkett, 2019**).

According to (**Wei, Sewell, Woody, and Rose, 2018**), The leadership needs to be dedicated to talking with and learning from nurses, recording and enhancing patient safety, promoting and demonstrating collaboration, identifying possible risks, and utilizing procedures for adverse event reporting and analysis.

Patient safety concerns have risen to the top of the agenda for health policy and healthcare administration. In order to perform high-quality services effectively and efficiently, it is now more important than ever to pay attention to safety issues (**Brower et al., 2021**).

According to **Aspden et al., (2014)**, the avoidance of unfavourable patient outcomes is the definition of patient safety. Error prevention, learning from mistakes, and fostering a culture of safety that involves both patients and healthcare professionals are essential elements of any effort to improve patient safety (**Aspden, et al., 2014**). According to (**Nordin, Larsson, Nordstrom, and Theander, 2013**), safe patient practices are "a type of process or structure whose application reduces the probability of adverse events resulting from exposure to the health care system across a range of diseases and procedures."

Significance of the study:

Errors are common in healthcare profession, which is getting more and more complex. For newly graduating nurses, the absence of a suitable orientation program can be extremely stressful and result in a prolonged period of low productivity. For new graduated nurses to succeed in their first year of work, they need support from leadership as

they grapple with learning new clinical skills, developing critical thinking abilities, and assimilating into a new culture (Terblanche & Cilliers, 2021). When a nurse is starting a new job or entering the profession, formal orientation sessions are crucial. Unacceptably high rates of medical harm and avoidable deaths are reported in relation to certain situations. These accidents may be the result of inadequate knowledge, a lack of knowledge, inadequate experience or training, or bad judgment based on the incorrect set of guidelines so that, applying orientation program effects in development of nursing knowledge toward patient safety at Main Mansoura University Hospital.

Aim of the study:

This study aims to evaluate effect of orientation program about patient safety on new graduated nurses' knowledge at Main Mansoura University Hospital.

Research Hypothesis:

Applying orientation program improves new graduated nurses' patient safety knowledge.

Operational definition:

New graduated nurse: is one who has worked in a hospital for less than a year.

Methods

Design:

The study design used was quasi-experimental to assess the intervention's overall impact on the intended target group.

Setting:

The study involved all inpatient unit of Main Mansoura University Hospital, which provides the Delta Region with a wide variety of medical services. Along with 20 departments and various secondary structures, it held 1860 beds. The main building has five floors. The departments of orthopedic surgery, hemodialysis, anesthesia intensive care unit, neurons and brain surgery, and its intensive care unit are all located on the first level. The Nose and Ear Department is located on the second floor. The women's department, the neuron and brain operation room, and the surgical departments are all located on the third floor. The orthopaedic departments are located on the fourth floor.

Participants:

All recent graduates of nursing (n = 80) from the units mentioned previously who were available and willing to participate in the study at the time of data collection were included in the study.

Tools of data collection:

Data of the present study was collected through:

Orientation Program Knowledge Test:

It consisted of two parts:

Part 1: Personal characteristics: age, gender, unit, educational qualifications, years of experience and marital status.

Part 2: Patient safety knowledge test administered to new graduated nurses during orientation. It was developed by researchers working guided by Naicker, (2021) and the World Health Organization in (2015). There were 77 questions on the test, 38 of which were multiple choice and 39 of which were true or false. The test covered the concept of patient safety, the hospital's aim and vision for patient safety, nursing rules and procedures, the national patient safety goals, patient rights, and other elements.

Scoring system:

The cut-off point stated that knowledge that was greater than 60% was accepted as satisfactory, while knowledge that was less than 60% was accepted as unsatisfactory.

Validity and reliability:

Five nursing administration specialists, including two professors and three assistant professors from Mansoura University's Faculty of Nursing were invited to assess the instrument and each of the study's separate components for appropriateness and relevance. The content and validity of the instrument were examined once it was translated into Arabic.

Testing for Reliability: Cranach alpha test is used to evaluate the reliability of the tool. The reliability of the knowledge questionnaire was 0.88.

Pilot study:

10% of the study sample, or ninety newly graduated nurses, took part in the pilot study to examine the feasibility, clarity, and amount of time required to complete the questions. The primary study sample did not include the pilot study sample. The results of the pilot study were used to inform any necessary adjustments, which included rewording and clarification.

Ethical considerations:

It was approved by the research ethics committee of the Mansoura University Hospital. After receiving information about the nature and purpose of the study, newly graduated nurses accepted to take part and provided informed consent. All participants were informed that the

study was voluntary and that they might discontinue their participation at any moment. Confidentiality of the data obtained and privacy of the study sample were assured to all participants.

Data Collection:

The three phases listed below were used to conduct the study. Each of these stages lasts about ten months, starting in June 2022 and ending in March 2023.

First phase:

This time frame before the intervention (pre-program) phase, which lasted from June 2022 until the end of July 2022, or around two months. All recently graduated nurses were subjected to a 20–30 minute interview process, conducted five days a week during the morning shift, in order to determine their degree of understanding regarding patient safety. The purpose of this pre-study assessment and evaluation was to provide a baseline of knowledge on freshly graduated nurses' awareness of patient safety prior to, immediately following, and during the follow-up program.

Second phase:

Based on the findings of the program assessment, the researcher created and implemented an orientation program about patient safety for all recently graduated nurses. The program timetable was carried out from the start of August 2022 until the conclusion of November 2022. Twenty recently graduated nurses were included in each of the four groups of newly graduated nurses since the data was gathered when the nurses were transitioning into their new roles. The fifteen hours required for the orientation program were divided into five sessions, lasting three hours each, for each of the five days of the week. The program was carried out by the researcher using easily accessible resources, suitable content, and instructional strategies for every session. Power point presentations, brainstorming sessions, group discussions, and lectures were all employed as teaching strategies. On the first day, a handout developed by the researcher was given to each participant as instructional material. It took each group about a month to implement the program and conduct an immediate post-program review.

Third phase:

The follow up – intervention evaluation phase entails: during this stage the impact of the program was evaluated, it was conducted after three months of implementing the program for each newly graduated nurses group before and immediately after the program's implementation.

The data collecting took place over a period of time four months from the beginning of December 2022 to the end of March 2023.

Data Analysis:

The statistical package for social sciences (SPSS) version 21 computer program was used for data entry and statistical analysis, along with the required statistical tests.

Statistical analysis:

The collected data were organised, tabulated, and statistically analysed using SPSS software V21. The category variables were described by percentage and frequency. Continuous variables were represented using the mean and standard deviation. There was a rejection of the normalcy assumption ($P < 0.05$). Therefore, Friedman's test was employed to look at differences in repeated measures when the variables were ordinal and non-parametric. The Wilcoxon test was used to perform a paired difference test, sometimes referred to as pairwise comparisons, on repeated measurements of non-parametric variables. The Cochran's Q test was applied to investigate differences in repeated measures for dichotomous variables. McNemar's test was used to assess the difference between paired proportions (pairwise comparisons). The Spearman correlation coefficient test was utilised at several points in the training program to look for connections between non-parametric research variables. P-values were regarded as statistically significant if they fell between 0.01 and 0.05.

Results:

Table (1): Illustrates the personal characteristics of the newly graduated nurses. The newly graduated nurses' age mean score, was 22.68 ± 1.76 and they were all female. And 71.3 %, or nearly two thirds of them had a technical degree. The mean score for years of experience was 4.58 ± 2.05 . Conversely, 66.3 % of them were unmarried.

Table (2): Illustrates the newly graduated nurses' knowledge regarding patient safety at various training program phases. They revealed that the highest mean score of newly graduated nurses' knowledge about patient safety improved to 77.01 ± 4.24 after 3 months of the program. While the lowest mean score of the newly graduate nurses' knowledge about patient safety was 48.06 ± 12.29 pre-program. Additionally, there was a highly statistically significant difference in the newly graduated nurses' knowledge about patient safety at various training program phases at (χ^2 / p 140.51/0.000**).

Table (3): Reflects the newly graduated nurses' levels of patient safety knowledge at various training program phases. After three months of the program, they found that the largest percentage of them (98.8%) had a good level of knowledge. However, 42.5 % of them had unsatisfactory pre-program knowledge. Additionally, during various training programme phases, there was a statistically significant difference in the newly graduated nurses' knowledge regarding patient safety. at (Q / p 45.39/0.000**).

Table (4): Reveals relationship newly graduated nurses' knowledge about patient safety and their personal characteristics during different phases of the training program. This table revealed that there was highly significant negative correlation between marital status, education & experience pre program & immediate after program except education & age immediately after program. While after three month there is no significant correlation.

Table (1): Personal characteristics of the Newly Graduated Nurses at Main Mansoura University Hospital (n=80)

Characteristics	n	%
Age years		
Mean±SD	22.68±1.76	
Gender		
Female	80	100.0%
Educational qualification		
Technical degree	57	71.3%
Bachelor degree	23	28.8%
Experience (months)		
Mean±SD	4.58±2.05	
Marital status		
Single	53	66.3%
Married	27	33.8%

Table (2): Knowledge of the Newly Graduated Nurses at Main Mansoura University Hospital about patient safety during different phases of the training program

Total nurses' knowledge regarding patient safety	Mean±SD	χ^2 / p	Pairwise comparison (p)
Pre-program	48.06±12.29	140.51/0.000* *	p1=0.000** p2=0.000** p3=0.000**
Immediately after program	55.10±10.09		
After 3 months	77.01±4.24		

p1: difference between pre and post / p2: difference between pre and post 3 months / p3: difference between post and post 3 months/ *statistically significant at p <0.05/ ** highly statistically significant at p <0.01

Table (3): The Newly Graduated Nurses' levels of knowledge regarding patient safety at different phases of the training program at Main Mansoura University Hospital.

Levels of knowledge related patient safety	Phases of training program						Cochran's Q / p	Pairwise comparison (p)
	Pre-program		Immediately after program		After 3 months			
	n	%	n	%	n	%		
Unsatisfactory	34	42.5	17	21.3	1	1.3	45.39/0.000**	p1=0.000** p2=0.000** p3=0.000**
Satisfactory	46	57.5	63	78.8	79	98.8		

p1: difference between pre and post / p2: difference between pre and post 3 months / p3: difference between post and post 3 months/ *statistically significant at p <0.05/ ** highly statistically significant at p <0.01.

Table (4): Relationship newly graduated nurses' knowledge about patient safety and their personal characteristics during different phases of the training program.

Characteristics	Nurses' knowledge related to patient safety					
	Pre-program		Immediately after program		After 3 months	
	r	P	R	P	R	P
Age	0.19	0.09	0.12	0.27	0.06	0.62
Marital status	-0.33	0.003**	-0.31	0.006**	-0.06	0.59
Education	-0.23	0.04*	0.12	0.31	-0.02	0.83
Experience	-0.49	0.000**	-0.42	0.000**	0.03	0.79

*Statistically significant at p <0.05/ **Highly statistically significant at p <0.01

Discussion: -

Nursing education is essential to patient safety and providing high-quality care. Encouraging safer behaviours and safeguarding patient safety depend heavily on adequate education, training, and competency assessments for nurses. Newly minted nurses must possess the requisite training and a comprehensive understanding of the pathophysiology of reaction, symptom, and treatment in order to safely administer and monitor care. According to **Willman, Bjuresäter, and Nilsson, (2020)**, awareness of protected performance has a major impact on qualified accomplishment, stress reduction, better work environments, increased maintenance, patient safety, and better patient outcomes.

According to the current study, following three months of the program, the highest mean score of newly graduated nurses' knowledge regarding patient safety improved. Additionally, during various training program phases, there was a highly statistically significant difference in the newly graduated nurses' knowledge regarding patient safety. This outcome could be attributed to the

training program's emphasis on teaching recently graduated nurses critical thinking, documentation, communication, and evidence-based practice.

Communication helps recently graduated nurses interact with patients, colleagues, doctors, superiors, and subordinates, while documentation is necessary for all of the nurse's job in order to protect them legally. In addition, critical thinking helps recently graduated nurses brush up on their knowledge, use the problem-solving process, and act when necessary.

(Ankers et al., 2018) Acknowledged that there was a knowledge gap for newly graduated nurses that made the transition from student to practitioner stressful and anxious. A transition program was relevant to lessen the negative effects since it offered the assistance required for a smooth role transfer to professional practice. The high level of knowledge that the program's support offered to newly graduated nurses helped to reduce their tension and worry. Additionally, it gave them more confidence to practice carefully, which reduced the amount of mistakes they made.

These results concurred with those of **Sexton et al., (2011)**, who reported that nurses with specialized training have greater understanding regarding patient safety and that the scores of newly graduated nurses were much higher.

This conclusion was consistent with the findings of **Mahmoud et al., (2022)**, who found that all practises' mean scores improved overall and that there were highly statistically significant differences between all practises before and after the nursing care protocol was implemented.

The current results are consistent with **Shimaa's, (2022)** findings, results showed that the mean knowledge score increased following the implementation of the post-in-service training program in comparison to the pre-implementation period. Furthermore, for the pre/post, post, and follow-up intervals, there were highly statistically significant differences across all knowledge items at $p < 0.001$.

This result is in line with studies conducted by **Shahin et al., (2020)** who discovered that Qassim National Hospital's critical care nurses have a high degree of patient safety knowledge. Their study was titled "Quality of care and patients' safety awareness and compliance among critical care nurses."

The study conducted by **Mahmoud et al., (2022)** titled "Effect of implementing nursing care protocol on critical patients' safety outcomes" lends support to this conclusion, as it revealed an increase in the overall knowledge of nurses following program implementation. Furthermore, all knowledge items showed very statistically significant differences at $p \leq 0.001$.

This outcome is comparable to that of the study conducted by **Mohamed et al., (2019)**, which found that the total nursing knowledge score increased significantly following the training program.

The current findings consistent with research conducted by **Mohamed, (2015)**, who discovered that nurses' knowledge ratings related patient safety decreased slightly at three months after program evaluation as opposed to immediately after program.

Additionally, **Zeinab, (2016)** demonstrated that, when comparing the three months post-program mean scores of newly graduated nurses' knowledge to the immediate post-program scores, there was a modest decline in their knowledge. The reason for this could be that the newly graduated nurses were too busy to read the handouts they received during program implementation because

of the heavy workload and staffing shortage in their units, and they may have also forgotten some of the knowledge they learned.

According to the current study, after three months of the program, the largest percentage of newly graduated nurses had a satisfactory level of knowledge. However, their pre-program level of knowledge is unsatisfactory. Additionally, during various training program phases, there was a statistically significant difference in the newly graduating nurses' levels of knowledge regarding patient safety. This outcome might be the consequence of receiving in-service training throughout the program's implementation, which enhances their productivity and ensures the highest level of patient safety throughout their regular workdays.

These results are in line with those of **Shimaa (2022)**, who reported that previous to implementation, over half of the study nurses had knowledge scores about Egyptian patient safety during the pre/post and follow-up phases that were unsatisfactory. Pre-implementation as opposed to post-implementation in the follow-up phase showed highly statistically significant differences for pre/post phases at $p < 0.001$ for the studied group, which had a satisfactory level of knowledge after three months.

The results of this study confirm those of **Morsy et al. (2015)**, who pointed out that the total knowledge score was correlated with the improvement in overall knowledge level seen in this study during the time the educational program was implemented and before implementation.

This study supports the findings of **Mahmood & Hassan's, (2020)** study, which indicated that after three months of the program, the majority of recently graduated nurses had satisfactory levels of knowledge. This improvement in nurses' practise was a result of applying suggested training program.

The findings are consistent with a study carried out by **Sloane et al., (2019)**, this study examined how changes to hospital nursing staff affected improvements in patient safety and care quality, and it discovered a strong relationship between nurses' growing expertise and improvements in patient safety and care quality. Additionally, **Abdelaal & Atalla, (2020)**, who reported that three months and immediately following the completion of the intervention both shown significant improvements in general nursing knowledge and safety attitudes. Additionally,

Seliem, et al., (2019) found that participants' knowledge regarding the study's patient safety improved between the pre- and post-test.

Belal et al., (2020) reported that the application of an orientation program led to a significant enhancement in both expertise and performance.

Furthermore, this result confirms the findings of **Kreem & Hamza, (2019)**, which indicate that nurses' knowledge about patient safety improved after the orientation program implementation. Furthermore, this finding reinforces a study by **Abdelmoaty et al., (2020)** that discovered a notable statistical difference between the pre- and post-orientation program knowledge levels of the studied nursing practises.

The present study reveals that there was highly significant negative correlation between marital status, education & experience pre program & immediate after program except education & age immediately after program. While after three month there is no significant correlation. This result might be the consequence of personal traits, surroundings, and the decision to become a nurse as a vocation, all of which can affect how new nurses view the pastoral time. Building a trustworthy relationship at this early phase is essential for new nurses to successfully adjust and acquire the needed competencies.

This result is consistent with that of **Rush et al., (2019)**, who discovered a highly significant negative association between newly graduated nurses' knowledge both before and immediately after program, with the exception of education and age.

This result is consistent with **Goma's, (2011)** conclusion that a lack of recent educational exposure regarding maintaining patient safety was the cause of new graduates' and experienced nurses' lower knowledge levels.

This outcome is consistent with the findings of **Woo and Newman, Nour and Williams, (2019)**, who reported a negative link between newly graduated nurses' knowledge both before and after the program and their marital status, education, and experience, with the exception of education and age. This outcome might be the result of NGRNs' unwavering anxieties about learning and mastering new working contents and procedures, complex interpersonal relationships, and frustrations about their incapacity to handle newly graduated nurses' assigned roles and responsibilities.

On the other hand, following three months of program implementation, **Roze des Ordon et al., (2018)** discovered an extremely notable positive correlation between the knowledge of recently graduated nurses and their level of education, experience, and marital status. For instance, offering a network of support and discussing one's own experiences with handling stress can help avoid despair and boost self-assurance in one's abilities.

This result conflicts with that of **Pasila et al., (2017)** and **Stacey et al., (2020)**, who, at different stages of the orientation program, found a positive correlation between knowledge level and personality attributes. Therefore, implementing a successful transition programme that includes awareness and recognition of transition shock as well as coping strategies regarding emotional, sociocultural, and developmental experience could be an effective way to improve NGRNs' overall nursing competency during the initial transition period.

Additionally, in line with **Li et al.'s, (2017)** findings, which indicated that personal traits support NGNs' capacity to apply their knowledge of theory and abilities from lab practice to clinical situations.

Conclusion:

The current study's findings indicated that there was highly statistically significant improvements in the mean scores of total knowledge of new graduated nurses after implementation of the in-service training program was supported by the results of the study.

Based on the findings recommended to:

- ❖ Design effective program for recently graduated nurses, taking into account their knowledge prior to starting into the clinical setting.
- ❖ Creating an orientation program and instruction handbook that is straightforward for recently graduated nurses, while simultaneously providing them with a prepared appraisal manual based on the standard methods mentioned in the booklet.
- ❖ Careful selection of supervisors and preceptors who supervise and provide orientation to recently graduated nurses.
- ❖ For recently graduated nurses, in-service training and education programs need to be an ongoing process that updates and expands their expertise.

- ❖ Give newly graduated nurses' technical preparation more consideration in order to validate their opinions on role transition. patient safety should be incorporated into their curriculum at the nursing schools and faculties.
- ❖ Establish and maintain cross-sectoral collaboration, partnership, and unity to enhance patient security and care quality.
- ❖ Maintain an ongoing supply of information and understanding to promote risk reduction, a reduction in unnecessary injury, and enhancements in the safety of care.
- ❖ Encourage, instruct, equip, and safeguard all healthcare personnel to participate in the development and implementation of secure healthcare systems.

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