

# EFFECT OF ORIENTATION PROGRAM ABOUT PATIENT SAFETY ON NEW GRADUATED NURSES' KNOWLEDGE AND SKILLS AT MAIN MANSOURA UNIVERSITY HOSPITAL

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### Abstract

Orientation program promote the knowledge and skill level of new graduated nurses in providing patient care. Therefore organizations need to support effective orientation programs that are structured to prepare and facilitate the transition of a new graduated nurse to competency to improve patient safety. **Aim:** To investigate effect of orientation program about patient safety on new graduated nurses' knowledge and skills at Main Mansoura University Hospital. **Design:** A quasi-experimental research design was utilized. **Setting:** All in patient departments at Main Mansoura University Hospital participated in the study. **Subject:** The study was include all new graduated nurses (n=80) who are available during the time of data collection at Main Mansoura university hospital. **Tools: (I)** Orientation Program Knowledge test. **(II)** Patient safety skills checklist. **Results:** During various stages of the training program, there were statistically significant differences in the levels of knowledge of newly graduated nurses regarding patient safety. Additionally, during various stages of the training program, all patient safety skills among newly graduated nurses were statistically significant. Additionally, there was no statistically significant relationship between newly graduated nurses' patient safety knowledge and abilities at various program levels. **Conclusion:** The post and follow-up new graduated nurses' patient safety knowledge and skills have improved after program implementation. **Recommendations:** Developing patient safety training programs and continuous updating of new nurses' knowledge and skills.

**Index Terms:** New Graduated Nurses, Patient Safety, Orientation Program.

### INTRODUCTION

According to the World Health Organization [1], nurses are essential to promoting public health. In the careers of new graduate nurses, the shift from nursing student to qualified nurse has been described as tough, hard, scary, worrying, and distressing [2]. Lack of information and insufficient clinical experience are two factors that contribute to new graduate nurses' pressure and unease, feelings of unreadiness and incompetence, and lack of professional assurance [3]. Competence is built on a foundation of knowledge and skill. According to [4], orientation programs play a important function in preparing newly graduated nurses for a competent and assured transition to the workplace.

An individual who recently completed a nursing degree, passed the national licensing exam, and received a license to practice as a registered nurse from the state where they would engage in their new profession is referred to as a new graduate nurse. A registered nurse who recently graduated from nursing school or who had only recently begun working [5]. However, insufficient education and experimental incapacity have been linked to therapeutic errors, disturbing exhaustion, distress, emotions of blame, and self-doubt [6]. Adequate training is important for improving performance and boosting self-assurance [7]. Professional confidence enables one to apply appropriate knowledge to patient circumstances, identify changes in those patients' situation, and react appropriately [8].

Newly graduated nurses go through orientation to become professional nurses. It might be challenging to go from education to a professional life. The stress that results from a nurse's difficult transition into nursing is a major factor in the turnover rate. As a result, orientation is essential to the overall hiring and retention of newly graduated nurses. The retention rate of newly graduated nurses has been observed to rise with effective orientation. Both general education theory and nursing education theory should be the foundation of well-structured orientation programs [9].

They will have a better perspective on professional nursing after receiving the right orientation with the new graduates. The new nurses will exhibit greater self-assurance and how constructive mentoring and orientation foster advancement in the hospital. The nurses will have more great things to say about the hospital and may even help bring in additional staff members as a result of all these positive effects (increased retention, less stress, more confidence, and decreased exhaustion). Poor orientation is shown by low morale, newly graduated nurses who are unprepared, a lack of communication, and poor guidance [10]. On the other hand, a proper orientation encourages nurses to feel competent. Additionally, nurses are content on the unit and believe they had a sufficient orientation, therefore they want to remain there.

Orientation programs have been demonstrated to socialize newcomers and, once the session is over, to boost their knowledge, skills, and abilities [11]. Evaluation of orientation programs is necessary to determine their efficacy. The leadership of the hospital will learn from this program whether the modifications made to the orientation program for newly graduated nurses were successful.

Preceptors were found to be useful and crucial in the new graduating nurses transition because they gave a sense of belonging (affiliation), accomplishment, worth (recognition), and engagement (active participation) in the orientation sessions. Additionally, the orientation program helped newly graduated nurses gain confidence by helping them understand how to perform properly [12]. The key advantage of orientation programs, according to [13], was that it helped the transition of newly graduating nurses into working professionals and improved their knowledge and skills to deliver safe patient care.

It has been demonstrated that orientation programs have a activist effect on patient outcomes and safety. Orientation program for newly graduated nurses is also made possible by the orientation program. This program helps new nurses "acknowledge where opportunity for errors can occur, how to predict errors, and start hazard alleviation practices to avoid errors overall" [14]. Evidence has shown that orientation program encouragement helped new graduates feel more confident, which led to safer patient care and superior results [13]. Additionally, it has been shown that orientation programs have boosted new graduates' confidence in providing safe and effective treatment while reducing their stress and anxiety [12].

According to [15], safety is a collection of procedures that administrators, managers, and caregivers follow every day with the goal of reducing and improving medical errors. A field in the healthcare industry called patient safety uses safety discipline techniques to build up a consistent healthcare delivery system. Another quality of health care systems is patient safety, which maximizes recovery from adverse events and reduces their incidence and impact [16]. Safety culture of hospital is defined as the loyalty and ability of hospital's wellbeing and safety managing and programs are determined by human being and grouping ethics, attitudes, skills, and patterns of behavior.

Patient safety should be a top main concern in every healthcare system in the globe because it is a crucial component of healthcare delivery and service quality. The literature contains several different definitions of patient safety. Patient safety is the elimination of avoidable risk of impairment connected with receiving medical concern to an adequate minimum level according to the World Health Organization [17]. Patient safety, according to the organization Safety Improvement for Patients in Europe, focuses on recognizing, assessing, and reducing patient risk [18]. The safety atmosphere, which is defined as the general perception of workers regarding the significance of safety inside their business, is associated with patient and healthcare worker performance as well as injuries, exposure, and safe work practices compliance among medical professionals [19].

Additionally, a core tenet of healthcare is patient safety. Every step of the care giving process has a certain amount of inherent risk. Problems with practices, products, methods, or systems can lead to adverse events. A sophisticated system-wide effort is required to promote patient safety, involving a variety of procedures for performance development, environmental security, and hazard management, such as infection control, secure apply of medications, and equipment. As a result, understanding the culture surrounding patient safety is crucial if hospitals aim to improve patient safety [20].

The improvement of incident reporting systems, the adjustment of care delivery systems, and proficient behavior have historically been the focus of attempts to enhance safety. The concentration in integrating patients and their representatives in safety procedures has, nevertheless, newly grown. The significance of patient involvement in patient safety has been recognized internationally by a number of safety programs [21]. Additionally, current research demonstrates that patients can play a crucial role in ensuring their safety and averting mistakes and negative outcomes. They can be crucial in building perfect

diagnosis, choosing the most excellent route of accomplishment, selecting the providers, ensuring that the course of action is carried out as anticipated, and identifying occurrences and taking relevant anticipatory actions [22].

## **SIGNIFICANCE OF THE STUDY**

Hospitals and other healthcare facilities that house patients must safeguard them against mistakes, illnesses, accidents, and injuries. This is known as in-patient hospital safety. While many hospitals do a fantastic job of protecting their patients, there are some that don't [23]. In-patient hospital safety accidents are caused by a variety of human causes and components. Two perspectives can be taken when examining well-being. Anxiety and despair can be found at either end of the happiness spectrum. Patient safety is significantly influenced by staff well-being. For instance, low staff morale and high rates of burnout are linked to low in-patient hospital safety, including medical errors.

Additionally, hospital safety for patients is a major concern for all healthcare institutions globally and is essential to the provision of high-quality care. A variety of aspects and characteristics specific to the hospital environment must be taken into account when assessing views of in-patient hospital safety. An organizational culture of patient safety, in which the leadership promotes system-wide attitudes, behaviors, teamwork, and technology to lesser the danger of patient impairment, is vital for successful and ongoing in-patient hospital safety enhancement [24].

Competence is built on a foundation of knowledge and skill. According to [4], educational preparation is important in enabling newly graduated nurses to make a competent and assured transition to the workplace. Insufficient education and detached incapability have been linked to health errors, poor quality compound, exciting collapse [25], suffering, emotions of shame, and self-doubt [26]. Satisfactory preparation acting a major function in humanizing act and growing self-possession [7]. Professional confidence enables one to respond to patient circumstances with the appropriate knowledge, recognize changes in their circumstances, and take the appropriate trial [27].

## **AIM OF THE STUDY**

This study aims to investigate effect of applying orientation program about on new graduated nurses' knowledge and skills at Main Mansoura University Hospital.

## **METHODS**

### **Design**

The study design used was quasi-experimental to evaluate the fundamental influence of an intervention on the target population.

## Setting

All in patient units at Main Mansoura University Hospital, which offers a wide-ranging range of medical services in the Delta Region, participated in the study. It occupied with 1860 beds which also has 20 departments and other outlying structures. The main building has five floors.

The first floor houses the Orthopedic Surgery Department, Hemodialysis Department, Anesthesia Intensive Care Unit, Neurons and Brain Surgery Department, and its Intensive Care Unit. The second floor houses the Nose and Ear Department. The third floor houses the Surgical Departments, Neurons and Brain Operation Room, and Women's Department. The fourth floor houses the Orthopedic Departments.

## Participants

The study included all newly graduated nurses (n = 80) at the previous mentioned units who were available at the time of data collection and willing to participate in the study.

## Tools of Data Collection

The study data was collected through using two tools:

### Tool I: Orientation Program Knowledge Test

#### There were two parts to it

**Part 1:** Personal & Job characteristics: Gender, unit, age, level of education, years of experience, and marital status.

**Part 2:** Patient safety knowledge test administered to new graduated nurses during orientation. It was created by researchers working under the direction of Naicker, (2021) and the World Health Organization in (2015). The test had 77 questions, of which (38) were multiple choice and (39) were true or false. The concept of patient safety, the hospital's mission and vision for patient safety, nursing policies and patient safety guidelines, national patient safety goals rights for patients, and other details were all covered.

## Scoring System

According to the cut-off point,  $\geq 60\%$  knowledge was considered satisfactory, and  $< 60\%$  knowledge was considered unsatisfactory.

**Tool II: Patient safety Skills Checklist:** This tool was developed by Saida, (2018). It was utilized to measure the nurses' skills with regard to patient safety. It has 13 items. Responses were scored using a 5-point Likert scale, 1 representing incompetence and 5 representing expert level proficiency.

## **Scoring System**

The scoring technique used a cut-point scale with scores ranging from 13 to 65. 60%, insufficient skills from (13-39), and sufficient skills from (40-65).

## **Validity and Reliability**

Five nursing administration specialists, including two professors and three assistant professors from Faculty of Nursing, Mansoura University were asked to evaluate the tools and individual components of this study in relation to its relevance and appropriateness. The tool was translated into Arabic and tested for its content and validity.

**Testing for Reliability:** Using Cranach alpha test to assess the tools' dependability. The knowledge questionnaire's reliability was (0.88), while the skills questionnaire's reliability was (0.81).

## **Pilot Study**

Pilot study to test the clarity, viability, and length of time needed to complete the questions, 10% of the study sample, out of a total of 90 newly graduated nurses, participated in the pilot study.

Pilot study sample were not a part of the study's main sample. Based on the results of the pilot research, any necessary revisions including clearing up and rewording were made.

## **Ethical Considerations**

The Mansoura University Hospital's Research Ethical Committee granted its clearance and it's code (1107). Newly graduating nurses who agreed to participate in the study after being told of its nature and goal gave their informed consent.

Every participant was made aware of the study's voluntary nature and their right to withdraw contribution at any time. All participants were given guarantees about the privacy of the study sample and the confidentiality of the data collected.

## **Data Collection**

The study was carried out in the three stages listed below. Each of these phases lasted roughly ten months, starting in June 2022 and ending in March 2023.

### **Phase One**

Before the intervention (pre-program) phase, which lasted from the beginning of June 2022 to the end of July 2022, was the first phase.

All new graduated nurses were questioned at this time, and observed for five working days per week during the morning shift in order to evaluate their level of ability and knowledge regarding patient safety using tools (1) and (2), respectively. Tool (1) took about 20 to 30 minutes to complete.



This pre-study examination and evaluation was conducted to provide a baseline of data regarding newly graduated nurses' knowledge and skill level regarding patient safety prior to, immediately following, and during the follow-up program.

### **Phase Two**

Based on the findings of the program evaluation, the researcher created and applied the program relevant to patient safety orientation to all newly graduated nurses. The program's implementation schedule is spread out throughout the months of early August 2022 and late November 2022.

In order to collect data during their transitional phase of employment, newly graduated nurses were divided into four groups, each of which contained twenty newly graduates. The orientation program required fifteen (15) hours, which were divided into five sessions for each group, lasting three hours each on five days a week. The researcher used resources that were easily accessible, as well as lectures, group discussions, and power point presentations as appropriate instructional strategies for each session.

### **Third Phase**

The program's effectiveness was assessed during this stage, which was carried out for each newly graduated nurses group three months after the program's implementation and applying the same tools as both before and after the program's application. From the beginning of December 2022 to the end of March 2023, four months were spent collecting the data.

### **Data Analysis**

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

### **Statistical Analysis**

Using SPSS software V21, the gathered data were arranged, tabulated, and statistically examined. Frequency and percentage were used to describe the category variables. Mean and standard deviation were used to represent continuous variables. The normality assumption was rejected ( $P < 0.05$ ). Therefore when variables were ordinal and non-parametric, Friedman's test was used to examine differences in repeated measures. Repeated measurements of non-parametric variables were subjected to a paired difference test (also known as pairwise comparisons) using the Wilcoxon test.

To examine variations in repeated measures for dichotomous variables, the Cochran's Q test was used. The difference between paired proportions (pairwise comparisons) was evaluated using McNemar's test.

Throughout several stages of the training programme, the Spearman correlation coefficient test was used to examine any relationships between non-parametric research variables. P-values between 0.01 and 0.05 were considered statistically significant.

## LIMITATION OF THE STUDY

One of the challenges that the researcher faced in this study was the work overload and the consequent difficulty of data collection.

## RESULT

**Table 1: Personal Characteristics of the Newly Graduated Nurses (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%

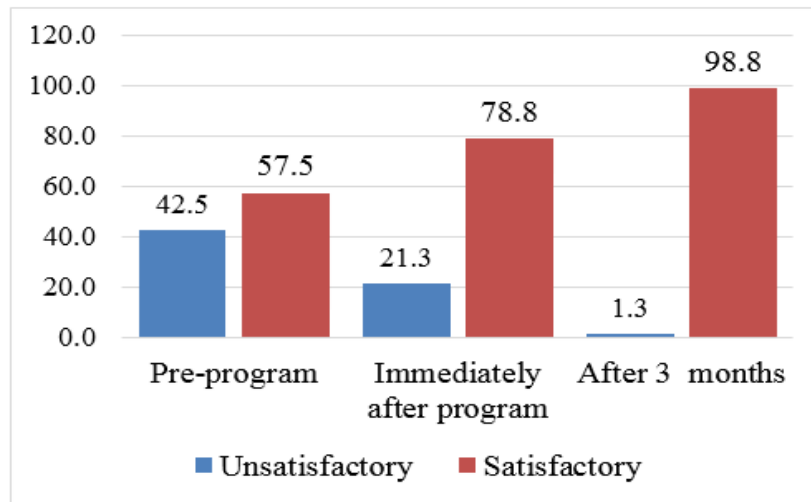
**Table (1):** Shows personal characteristics of the newly graduate nurses. According to the table, the mean score of the studied nurse's age was 22.68±1.76. And all of them were female. And nearly two third of them (71.3%) had technical degree. As regards to years of experience, the mean score was 4.58±2.05. Whereas most of newly graduate nurses (66.3%) were single.

**Table 2: Levels of Knowledge of the Newly Graduated Nurses Regarding Patient Safety during Different Phases of the Training Program**

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





**Figure 1: Levels of Knowledge of the Newly Graduated Nurses Regarding Patient Safety during Different Phases of the Training Program**

Table (2) & figure (1): Represent levels of knowledge of the newly graduated nurses regarding patient safety during different phases of the training program. They revealed that the highest percent (98.8%) of studied nurses have satisfactory level of knowledge after 3 months of the program. While, (42.5%) of them have unsatisfactory level of knowledge pre-program. Additionally, during various stages of the training programme, there was statistically significant variation in the levels of knowledge of studied nurses regarding patient safety. at (Q / p 45.39/0.000\*\*).

**Table 3: Patient Safety Skills among the Newly Graduated Nurses during Different Phases of the Training Program**

Patient safety skills	Phases of training program			$\chi^2 / p$
	Pre-program	Immediately after program	After 3 months	
	Mean±SD	Mean±SD	Mean±SD	
Attend regular meetings in the department to discuss patient safety issues.	1.73±0.69	2.69±0.63	4.98±0.22	151.64 / 0.000**
Patients are allowed to express their feelings and thoughts about care plan to ensure patient safety.	1.76±0.80	2.73±0.71	4.86±0.41	151.58 / 0.000**
Patients participate in their care plan to ensure patient safety.	1.73±0.75	2.68±0.73	4.86±0.38	155.56 / 0.000**
Use good observation of the patient (when giving medication, in the bathroom, and using the personal tools). This gives an opportunity to achieve safety in the department.	1.73±0.80	2.68±0.81	4.81±0.53	150.12 / 0.000**
Communication and interaction between the patient and nursing staff and another patient to behave in a safe manner.	1.71±0.75	2.66±0.73	4.89±0.32	155.56 / 0.000**

Prevents the patients from hurting themselves and others.	1.66±0.76	2.61±0.77	4.86±0.38	155.04/0.000**
Use aseptic technique is sometimes as a safe manner for some patients	1.61±0.68	2.56±0.73	4.95±0.22	155.56/0.000**
Adhering to the patients in their safe rooms.	1.68±0.76	2.64±0.82	4.93±0.27	154.53/0.000**
Participate as a team member in identifying the cause of an error.	1.75±0.70	2.71±0.75	4.88±0.49	148.66/0.000**
Supporting and advising a peer who must decide how to respond to an error.	1.79±0.76	2.74±0.79	4.93±0.38	149.64/0.000**
Accurately entering an incident report.	1.8±0.80	2.76±0.82	4.91±0.28	152.07/0.000**
Maintain the safety and therapeutic milieu for care.	1.74±0.81	2.66±0.81	4.89±0.36	148.23/0.000**
Practice safety guidelines for your workplace.	1.74±0.85	2.68±0.79	4.86±0.35	152.13/0.000**
Total patient safety skills	22.41±6.52	34.79±6.40	63.60±1.80	156.10/0.000**

\*\* Highly statistically significant at  $p < 0.01$

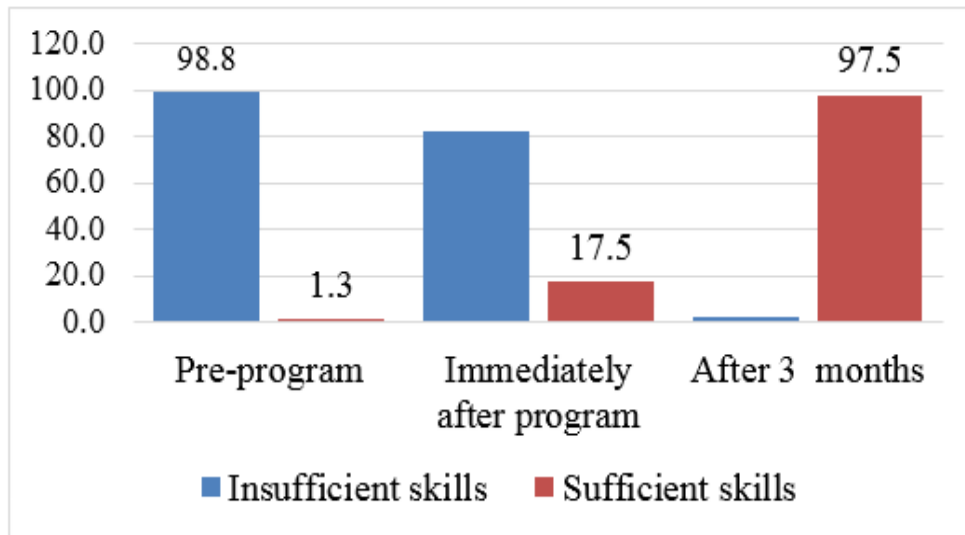
Table (3): Reveals patient safety skills among the newly graduated nurses during different phases of the training program. This table revealed that the total patient safety skills mean score  $63.60 \pm 1.80$  after three months of the program. The highest mean score  $4.98 \pm 0.22$  regarding attend regular meetings in the department to discuss patient safety issues after three months of the program. While, the lowest mean score  $4.81 \pm 0.53$  use good observation of the patient (when giving medication, in the bathroom, and using the personal tools). After three months of the programme implementation, this provides a chance to attain safety in the department. Also, there was statistically significant of all patient safety skills among the studied nurses during different phases of the training program at ( $\chi^2 / p156.10/0.000^{**}$ ).

**Table 4: Levels of Total Patient Safety Skills among the Newly Graduate Nurses during Different Phases of the Training Program**

Levels of patient safety skills	Phases of training program						Cochran's Q / p	Pairwise comparison (p)
	Pre-program		Immediately after program		After 3 months			
	n	%	n	%	n	%		
Insufficient skills	79	98.8	66	82.5	2	2.5	130.69/ 0.000**	p1=0.001** p2=0.000** p3=0.000**
Sufficient skills	1	1.3	14	17.5	78	97.5		

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  $p < 0.01$



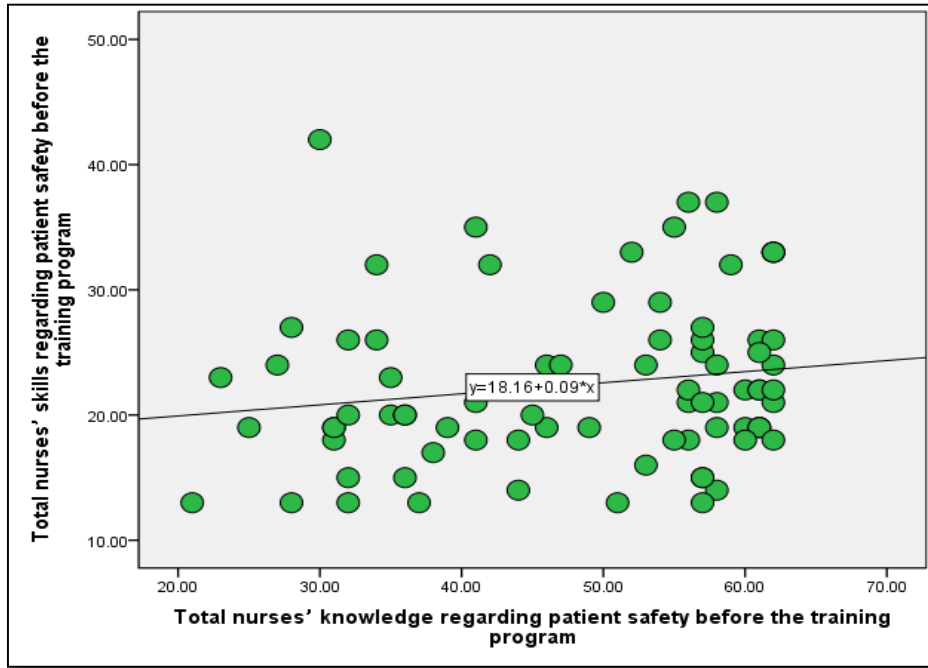
**Figure 2: Levels of Total Patient Safety Skills among the Newly Graduated Nurses during Different Phases of the Training Program**

**Table (4) & Figure (2):** Represent levels of total patient safety skills among the newly graduated nurses during different phases of the training program. They revealed that the majority (98.8%) of the studied nurses have insufficient skills pre-program. While, improved to (97.5%) of them have sufficient skills after three months of the program. There was statistically significant improvement in the studied nurses` skills about patient safety at (Q / p130.69/0.000\*\*).

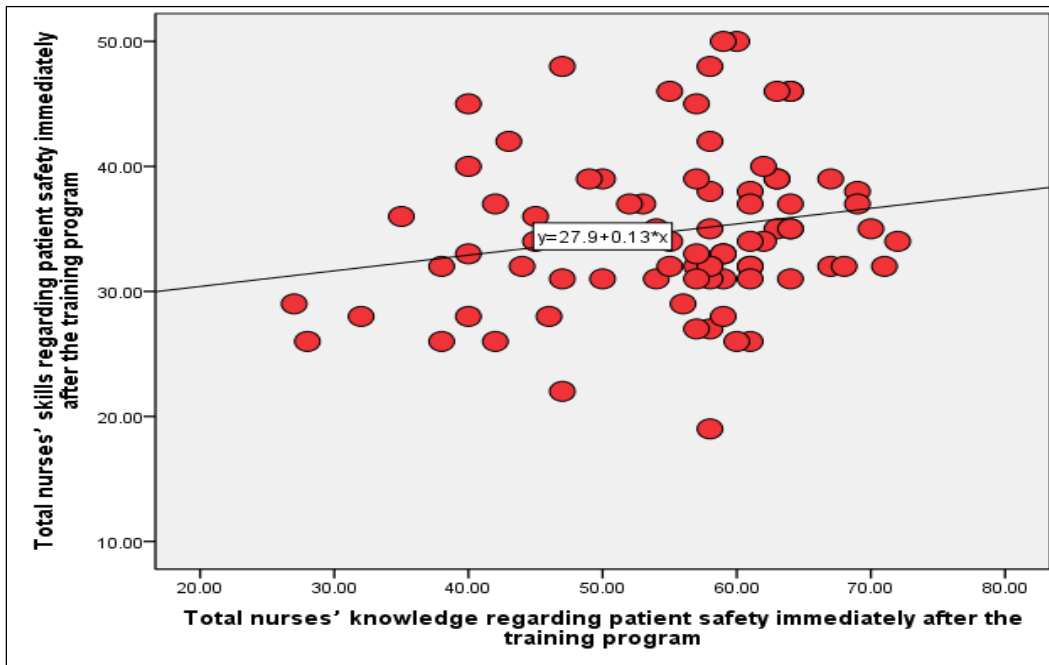
**Table 5: Relationship of Newly Graduated Nurses' Knowledge and Skills Regarding Patient Safety during Different Phases of the Training Program**

	Phases of training program	Nurses' skills regarding patient safety					
		Pre-program		Immediately after program		After 3 months	
		r	p	r	p	R	P
Nurses' knowledge regarding patient safety	Pre-program	0.19	0.08				
	Immediately after program			0.22	0.06		
	After 3 months					0.11	0.35

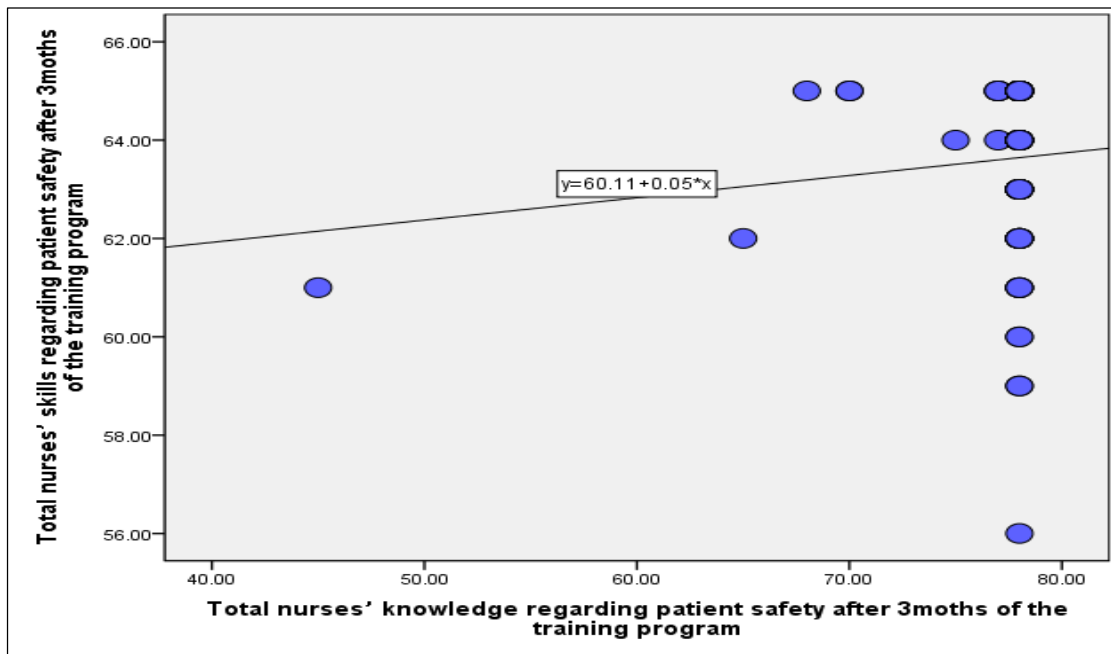
\*\*statistically significant at p <0.05"



**Figure 3: Relationship Newly Graduated Nurses' Knowledge and Skills Regarding Patient Safety before the Training Program**



**Figure 4: Relationship of Newly Graduated Nurses' Knowledge and Skills Regarding Patient Safety Immediately after the Training Program**



**Figure 5: Relationship of Newly Graduated Nurses' Knowledge and Skills Regarding Patient Safety Immediately after 3 Months of the Training Program**

**Table (5) & figure (3, 4, 5):** Reveal relationship of newly graduated nurses' knowledge and skills regarding patient safety during different phases of the training program. This table revealed that there was no statistically significant correlation in the studied nurses' knowledge and skills regarding patient safety during different phases of program.

## DISCUSSION

Safety of patients and high-quality treatment are predicated on the education of nurses. The cornerstones of protecting patient safety and encouraging safer behaviors are sufficient education, training, and competency evaluations for nurses. To safely deliver and monitor care, newly graduated nurses need to have a thorough awareness of the pathophysiology of reaction, symptom, and treatments as well as the necessary training. According to [28], knowledge and skills into protected perform significantly influence qualified fulfillment, reducing strain, improving occupation conditions, rising maintenance, promoting patient safety, and improving patient outcome.

According to the recent study, after three months of the training, the greater part of newly graduating nurses have a good level of knowledge. However, their pre-program knowledge is inadequate. Additionally, at various phases in the training program, there were statistically significant differences in the newly graduating nurses' patient safety knowledge. This outcome can be the result of the program's in-service training, which improves participants' performance and ensures the highest level of patient safety throughout their daily job.

These findings are consistent with those of [29], who found that prior to implementation, more than half of the study nurses had knowledge scores that were unacceptable when it came to Egyptian patient safety pre/post and follow-up phases. For studied group who had a satisfactory level of knowledge after three months, pre-implementation as compared to post-implementation in the follow-up phase, with highly statistically significant differences for pre/post phases at  $p < 0.001$

The current study's findings also agree with those of [30], who noted that the improvement in total knowledge level observed in the present study between the time the educational program was implemented and before it was implemented was related to the total knowledge score.

This study is in accordance with the study by [31], which found with the intention of the bulk of newly graduated nurses had satisfactory levels of knowledge after three months of the program, which led to improvements in nurses' practice after applying recommended training programs.

These result are reliable with those of a study conducted by [32], this investigated the impact of adjustments to hospital nursing staff on enhancements to patient safety and care quality and found a well-built correlation between nurses' increased knowledge and advancements in patient safety and quality of care. Additionally, [33], who claimed that safety attitudes and shown notable increases in the general nursing knowledge both immediately following and three months after the intervention. Additionally, [34] found that participants' knowledge regarding the study's patient safety improved between the pre- and post-test.

The use of an orientation program, according to [35], resulted in a meaningful improvement in the expertise and performance after program implementation.

Additionally, this outcome supports [36] findings, which point to an advance in the nurses' knowledge of patient safety following the implementation of the orientation program. Additionally, this result supports a study by [37] that found between the pre- and post-orientation program knowledge levels of studied nursing practices, there was a remarkable statistical difference

The consequences of this study showed that, after three months of the program, attending regular departmental meetings to discuss patient safety issues received the highest mean score. The department has a chance to attain safety after three months of the program, even if the use of good observation of the patient (while administering medication, in the bathroom, and using personal tools) received the lowest mean score. This outcome can be the result of newly graduating nurses going through a time of adjustment to new situations and the training program equipping newly graduated nurses with enough knowledge regarding patient safety.

This result is consistent with the findings of [38], who noted that pre-program had the lowest mean score for drug administration.



This result is consistent with [39], who stated that the pre, during, and post administration of medication had the lowest mean scores. At the pre-training program phase, approximately one-third of the observed dose during medication preparation had elevated errors, and approximately two-thirds of the observed dose during medication administration had high errors.

In keeping with this, [40] reported that drug administration in both the ICU and the medical ICU had the lowest mean score. This result is in conformity with [41] study that the medicine administration process had the lowest mean score. Even though the greatest mean score was after program implementation, it was still lower than it was before, indicating that the program had a beneficial impact on nurses' performance in terms of fewer medication errors.

This result is consistent with research by [42] who found that NGRNs struggle to recognize changes in patients' health because they not have sophisticated scientific skills such drug administration, physical assessment, emergency procedures, and communication.

This result contradicts [43] claim that medicine administration had the highest mean score. Additionally, the results differ with those of [44], that showed that about two-fifths of the nurses in the study possess efficient competencies, such as regularly attending departmental meetings to discuss patient safety issues.

This result conflicts with [45] claim that patient safety/illness and injury prevention received the highest mean score. After the program's execution, those NGs were able to do the tasks required for client safety, such as medicine administration safety, environmental safety, hazardous material safety, fall prevention, and health promotion.

The current study found that after three months in the training, newly graduated nurses have adequate capabilities. Additionally, there was a statistically significant upgrading in the new nurses' abilities concerning patient safety. This outcome could be attributed to the fact that new nurses graduating from orientation programs to become registered nurses (RNs) are developing the critical thinking abilities necessary to tackle patient concerns.

The findings are in line with findings from [46], which indicated that orientation programs help newly graduating nurses develop their knowledge, skills, and professional networks. The findings of [47], who found that the orientation program increased skills and trust and allowed newly graduating nurses to operate freely, are also in agreement with this.

Also, agreement with the study outcome of [48] they claim that newly graduated nurses have adequate qualities following the program, leading to the development of patient care management and the participants' confidence. This was supported by the findings of [49] They demonstrated how the orientation provided to fresh nursing graduates enables them to increase their knowledge of their roles in a clinical context as well as their abilities and knowledge. The focus group's findings also showed that the orientation program gave nurses the impression that their clinical instructors supported them and were informed,

skilled individuals. This is consistent with [50] findings, which said that educators were crucial to orientation programs that led to an improvement in the newly graduating nurses' patient safety skills.

This end result is consistent with [51], which shown that nurses gained experience in patient-related duties following orientation. The skills of nurses differ, and experience affects those skills.

The existing study found no statistically significant link between newly graduated nurses' knowledge and patient safety skills at various programmatic stages. This outcome can be the result of a hospital's lack of financial resources to provide new nurses with proper training.

In the line with [52], who found that patient must be a top main concern for healthcare professionals. For optimal patient safety, knowledge and skill development should be linked with theoretical justifications and learning experiences.

This finding contrasts with that of [53], who revealed a correlation between the total level of the nurses' knowledge before to the pre-test and their practice for the pre/post and follow-up ( $P > 0.000$ ) was statistically extremely significant. While there was a substantial correlation between the total levels of the nurses' post-test knowledge and performance for the pre-test and post-test phases ( $p 0.014$ ), it was not statistically significant. The overall levels of the nurses' skills pre/post-test and the follow-up knowledge exam did, however, show a very statistically significant correlation ( $p= 0.016$ ).

This outcome conflicts with a study by [54], which found a substantial link between overall knowledge and total patient safety skills as well as a positive correlation between the two. Additionally, results that are inconsistent with [55] also found a very strong correlation between all nurses' knowledge and abilities regarding patient safety both before and after completing nursing care program application. With a  $p < 0.001$ .

## **CONCLUSION**

The current study's findings confirmed the study's presumption that there had been highly statistically significant improvements in the mean scores of all skills and knowledge during the post-implementation and follow-up phases of the training program. The association between the overall level of the nurses' knowledge and skills during the pre/post and follow-up phases of the implementation of the training program also showed significant statistically differences.

## RECOMMENDATION

### Based on the Result Recommended To

- Perform a well designing efficient orientation programs for newly graduated nurses based on their skill evaluation and knowledge test upon entrance to the clinical location.
- Designing orientation program in booklet to be a direct for newly graduated nurses, and offer them also with planned appraisal instruction manual based on standard procedures included in the orientation booklet.
- Careful choice of preceptors and mentors to direct and give orientation for new graduate nurses.
- Conduct continuous professional development training and education programs for inspiring and expanding newly graduating nurse's expertise.
- Provide more attention to the technical preparation of newly graduated nurses to support their views on role transition.
- Patient safety should be incorporated into their curriculum at the nursing schools and faculties.
- Teach newly graduated nurses how to observe patients carefully (while providing medications, for example, to spot side effects or reactions, or in the restroom, for instance, to prevent patients from falling) and educate patients to use their personal tools).
- Educate new graduated nurse's communication skills to with patients and help them to express their feelings and thoughts about care plan to ensure patient safety.
- Conduct more conferences and meetings to provide the nursing staff with updated knowledge to enhance their awareness of patient safety issues.

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