

Effect of Preceptorship Program on Nurses' Performance as A Preceptor in Intensive Care Units

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Abstract:

Background: Preceptorship is a period of structured transition to guide and support new nurses from students to autonomous professionals. It provides support, guidance, and development for all new practitioners to build confidence and competence as they transition from students to autonomous professionals. **Aim:** To evaluate the effect of preceptorship program on nurses' performance as a preceptor in Intensive Care Units. **Subjects and Method: Design:** Quasi experimental research **Setting:** The study was conducted in all Intensive Care Units at El-Menshawy General Hospital. **Subjects:** included all (n=80) nurses in previously mentioned setting. **Tools:** Data was collected using three tools. Preceptor Role Knowledge Structured Questionnaire, Nurses Perception about Preceptor Role Questionnaire, and Observational Checklist for Nurse Skills Regarding Preceptor Roles and Responsibilities **Results:** The most 80% of nurses had poor knowledge level about preceptor roles pre – preceptorship program and 87.5% of them had good level of knowledge post- program. Pre-program the majority 93.7% of nurses were low practice levels of preceptor roles and responsibilities. Post -program 82.5% of them were high practice level. Also, there are statistically highly significant difference between nurses' knowledge and practice skills about preceptor roles and responsibilities. **Conclusion:** The most of nurses had poor knowledge and skills level about preceptor roles pre-preceptorship program and it level improved post-preceptorship program **Recommendations:** Implement preceptorship program for new nurses to sustain their knowledge and skills regarding preceptorship program. Raise nurse's attention to seriously observe new nurses' performance frequently and give proper support for good contribution.

Keywords: Nurses, Preceptor, Preceptorship, Performance, Program.

Introduction

Nursing as an integral part of the health care system, include the promotion of wellness, illness prevention and care of physically ill, mentally ill, disabled people of all ages and in all health care and other community settings (Nilsen, et al., 2020). Nursing is both an art and a science as well as a humanitarian service. It is a distinct profession within the health care sector focused on the care of individuals, families, and communities. Nurses play an important role in intensive care units by evaluating patient's condition and coordinating treatment, as well providing constant support through recovery in addition, design and implement effective care plans (González, et al.,2021). Critical care nurses should be more qualified nurses who provide the bulk of direct care to patient in life- threatening situations with in the intensive care units but, with work overload and critical cases inside ICU, it is necessary to recruit new nurses to work in these critical care units, (Nilsen, et al., 2020; González, et al., 2021).

Preceptorship is a period of structured transition to guide and support all newly qualified practitioners from newly nurses to autonomous professional in order to develop their practice further (Choi, & Yu, 2022). Nurse preceptor is an experienced licensed clinician who supervises new nurses during their clinical rotations. Clinical preceptors are essential to nursing education and rely on the expertise of experienced clinicians (Stanus, & Diana, 2022). Preceptors are experienced and competent staff nurses who act as role models and resource people to new nurses, who are all referred to as 'preceptees.' They use the knowledge, skills, abilities, and

roles of both coaches and mentors to help preceptees develop and mature into strong practicing professionals, (Wardrop, et al., 2019). The successful nurse preceptor, should have excellent, interpersonal, and conflict management skills to foster collaboration and pleasure, while also teaching and encouraging clinical reasoning, critical thinking and problem solving, (Stanus, & Diana, 2022; Wardrop, et al., 2019).

Newly nurses need to introduce to their new roles and responsibilities, educated in the basics of nursing knowledge and procedures, assess results, provide feedback for improvement, and introduced to their supervisors and staff colleagues, (Han, et al., 2019). Preceptors should be role models in their attitudes, values, and abilities in order to maintain and fulfill their position. In addition, the nurse preceptor should listen to new graduate nurses' questions and concerns, provide constructive feedback, and try to eliminate any barriers they face. Understand and accept the role of a nurse preceptor, improve nurse preceptorship skills, and maintain education support for nurse preceptor responsibilities, particularly in critical care units (Hardi, et al., 2022).

Nurse preceptors as a communicator are a valuable resource and have the ability to facilitate and sustain such close working relationships between new graduate nurses and patients. In order to establish a fruitful and productive professional relationship in nursing practice, preceptors need to have strong interpersonal and communication skills (Alhassan, et al., 2022). Successful preceptors' management skills include initiating, facilitating, and implementing. Preceptors who have these skills will help

in the development of higher functioning teams, improved problem solving and critical thinking, conflict resolution, and efficient feedback and communication networks (Queck, & Gani, 2019).

Despite the important role of the nurse preceptor, there are many obstacles that hinder their careers, including a high workload; inadequate preparation for the role of preceptor; a shortfall in time spent with new graduate nurses; and a lack of support from the top executive; and being made to feel accountable for the new nurses' success or failure (Ong, et al., 2021) Preceptor role is a challenging and stressful one that required a lot of time and effort. Due to the heavy workload, the nurse preceptor had to compromise on some of their responsibilities. The preceptorship program is built around predetermined and clear goals and objectives (Griffith, & Marni, 2021).

Nurse preceptors are not well able to tackle the preceptorship role mentally and academically, resulting in significant stress in the early stages of their preceptorship careers (Bartley, & Huntley-Moore, 2022) The allocation of new nurses to different preceptors is also an issue. To ensure more consistent instruction, they argued that a new nurse should be assigned to the same preceptor for the entire term of the preceptorship (Kim, & Kisook, 2019). Preceptors expected rewards in the form of financial assistance, workload reduction, or that their own personal roster preferences be considered. Nurse preceptors hoped to receive in return for their hard work is a certificate of appreciation, which isn't appropriate for them. All of these obstacles

can stifle the confidence of new nurses in their preceptor (Bartlett, et al., 2020).

Significance of the study

A successful orientation program offered by a suitable selection of preceptors will help new form a favorable impression of the ICU work environment and increase their confidence in using the skills they are learning in their organization (González, & Hernández, 2021; Choi, & Yu, 2022). It has been shown that one of the reasons for high burnout rates in the first year of practice is a poor transition period involving ineffective nurse preceptor. In the city of Garbia, there are no standards for planning and implementing a orientation program that prepares nurses to become preceptor (Wardrop, et al., 2019) National attention of many studies conducted in different institutions and the majority of them recommended that an orientation program should be implemented to prepare nurses for the preceptor role (Bartlett, et al., 2020; Ahlstedt, et al., 2019).

The aim of study was to

Evaluate effect of preceptorship program on nurse's performance as a preceptor in Intensive Care Units.

Research question:

What is the effect of application preceptorship program on intensive care nurses knowledge and skills?

Subjects and method

Study Design:

Quasi- experimental design was used.

Setting:

The study was carried out at Intensive Care Units at El-Menshawey General Hospital which affiliated to Ministry of Health and Population.

Subjects:

The study subject consisted of all (n=80) Intensive Care Units nurses working in the previously mentioned setting. General Intensive Care Unit(n=21), Cardiac Care Unit (n=18), Neonate Care Unit(n=15), Pediatric care unit(n=8), Intermediate care units(n=7) and Neurology care units(n=11).

Tools of data collection:

To achieve the aim of this study, the following three tools were used for data collection.

Tool (I): Structured Interview Schedule:

This tool was developed by the researcher guided by **Elzabeth, (2019)** and **Giroto, et al. (2019)** and **Esami, (2020)**. It included two parts as follows:

Part (1) Nurses personal characteristics

This part has assessed nurse's personal characteristics data namely; age, gender, department, marital status level of educational and years of experience.

Part (2) Nurses Knowledge about Preceptor Roles Structure Questionnaire.

It was consisted of multiple-choice questions, matching and true and false questions. It was cover questions related to concept of preceptorship and preceptor competencies, clinical preceptor and act as a professional role model, Effective preceptor teaching role, evidence based practice and facilitation skills, effective communication preceptor role, interpersonal and critical thinking , effective management preceptor role, leadership skills, assertiveness and flexible as regards change, motivation and conflict management and clinical decision making , problem solving, quality and safety in health care organization and principles of evaluation and feedback to new nurses

Scoring system:

Each question of knowledge test was take one score for correct answer and zero for wrong answer.

Levels of nurses' knowledge was taking scores as follows (Silva et al., 2019):

- Good nurses knowledge $\geq 75\%$
- Fair nurses knowledge $60 - <75$
- Poor nurses knowledge $< 60\%$

Tool II: Nurses Perception about Preceptor Role Questionnaire.

This tool was developed by the researcher guided by **Phillips, (2016)** and **El -Hosany, et al., (2019)**. It was used to assess nurses perception about preceptor role. It was included the following subscales:

- Clinical role:** (9 items).
- Teaching role** (17 items).
- Communication role** (10 items).
- Management role** (13 items).
- Perceived role as a preceptor** (4 items).
- Personality traits** 15 (items).
- Obstacles to carryout preceptor's role** (9 items).

Scoring system:

Nurses responses was measured on a five points Likert Scale ranging from 1 to 5 as Strongly Disagree =1 Disagree = 2 Neutral = 3 Agree = 4 Strongly Agree = 5

The total scores were calculated by summing all categories were, (Phillips, 2016).

- High level of nurse' perception $\geq 75\%$.
- Moderate level of nurse' perception $\geq 60 - <75\%$.
- Low level of nurse' perception $< 60\%$.

Tool (III): Observational Checklist for Nurse Skills Regarding Preceptor Roles and Responsibilities:

This tool was adapted from **El-Hosany, et al., (2019)** to assess nurse skills related to preceptor roles and responsibilities. It was included the following subscales:

- **Clinical skills** (9 items)
- Teaching skills** (16 items).
- Communication skills** (10 items)
- **Management skills** (13 items).
- Personality traits** (15 items).

Scoring system:

Nurses responses were measured on a three points Likert Scale ranging from 0 to 2 as 2= done, 1 = Sometimes done and 0= not done.

Level of skills of nurses as follows, (**Smith 2019**):

- High level of nurse' kills ($\geq 75\%$).
- Moderate level of nurse' skills ($\geq 60\%$ - $< 75\%$).
- Low level of nurse' skills ($< 60\%$).

Method

The study was implemented according to the following steps-

Official permission to conduct the study was obtained from responsible authorities.

Ethical consideration was considered all over the study as the following:

Approval from the Ethical Committee at Faculty of Nursing was code in 18/11/2020

The researcher was introducing herself to the participants, a full explanation of the aim and method of the study was done to obtain their acceptance and cooperation as well as their informed consent.

The right to with throw participation at any time was accepted.

The nature of the study did not cause any harm for the entire sample.

Assuring the nurses about the privacy and confidentiality of the collected data and explain that it will be used for the study purpose only.

Tool II and III will be presented to a jury of seven experts in the areas of specialty to check content validity.

4- Reliability of tools was tested using Cronbach's Alpha Coefficient Factor, its value was (0.860) for tool II

5-A pilot study was carried out on a sample (10 nurses) of subjects to check and ensure the clarity of the tools, identify obstacles and problems that may be encountered during data collection.

This study was conducted through the following preceptorship program:

The preceptorship program was conducted in four phases: Assessment phase, development of preceptorship program phase, implementation of the preceptorship program phase and finally evaluation phase.

Phase I: Assessment phase:

-Assess nurses' knowledge about preceptor role using tool (I).

-Assess nurses' perception about preceptor role using tool (II).

-Nurses observational checklist about their skills regarding preceptor roles and responsibilities by using tool (III).

Phase II: Development of preceptorship program:

The first step in the development of preceptorship program was the statement of instructional objectives based on assessed need of the sample and literature review.

Selection and organization of program content

The second step after determining the objectives of program was specifically designed the content and method of teaching. Simple scientific language was used. The content was designed to provide knowledge and skills about preceptor role. The preceptorship program content was including eight sessions about preceptor skills namely:

- 1- Concept of preceptorship and preceptor competencies.
- 2- Clinical role of nurse preceptor and act as a professional role model
- 3- Clinical teaching role of nurse preceptor, evidence-based practice and facilitation skills
- 4- Communication role of nurse preceptor, interpersonal and critical thinking.
- 5- Management role, leadership skills, assertiveness and flexible as regards change.
- 6- Clinical decision making, motivation and conflict management.
- 7- Problem solving, quality and safety in health care organization.
- 8- Principles of evaluation and feedback to new nurses.

Phase III: Implementation of preceptorship program

The researcher informed nurses about the objectives of the preceptorship program and encouraged them to participate in the program. The researcher was build good relationship with nurses to enhance their participation and more involvement in the program

Data collection phase: the data were collected from nurses by researcher. The researcher was met the nurses at their workplace at El- Menshawy General Hospital. The program for 80 nurses. They were divided into eight groups. The program time was 6 hours for each group. One session every day (45 minutes, every day for 8 days). The program theoretical sessions were held in conference room at El-Menshawy General Hospital.

Phases IV: Evaluation of the preceptorship program:

- The researcher evaluated nurses' knowledge by tool (I) after implementation

preceptorship program and their skills by tool (III) through three months after implementation preceptorship program.

Statistical analysis:

The collected data were organized, tabulated and statistically analyzed using SPSS version 19 (Statistical Package for Social Studies) created by IBM, Illinois, Chicago, USA. For numerical values the range mean and standard deviations were calculated. The differences between two mean values were used using student's t test. Differences of mean values in relation to family income and other variables were tested using Kruskal-Wallis Test as data were not normally distributed due to small sample size of subgroups. For categorical variable the number and percentage were calculated. The correlation between two variables was calculated using Pearson's and Spearman's correlation coefficient based on type of variables. The level of significant was adopted at $p < 0.05$.

Results

Table (1): Illustrated percentage distribution of nurse's personal characteristics. The table reveals that the age of nurses ranged from 24– 46 years with mean age 35.587 ± 5.22 and 66.2% of them were in age group 30 - < 40. The majority (90.0%) of nurses were female. 28.7% of nurses worked in Neonate units. More than half (53.7%) of nurses had Bachelor Degree. The most 86.3% of nurses were married. More than one quarter (31.3%) of nurses had 10 - < 15 years of experience.

Table (2): Showed nurses' knowledge levels about preceptor role pre and post-preceptorship program. The table showed that highly statistically significant about level of nurses' knowledge for preceptor

role pre and post- program ($\chi^2=160.00$ at $P=0.001$). The most 80% of nurses had poor knowledge level about preceptor roles pre-program and 87.5% of them had good level of knowledge post- preceptorship program.

Table (3): Appeared percentage distribution of levels of nurse's perception about preceptor role pre-preceptorship program. According to total nurses perception the table illustrated that the majority (93.0%) of them had high level of perception about total preceptor roles. Pre-preceptorship program the majority (97.5%, 91.0% and 90.0%) of nurses had high level of perception about preceptor roles related to obstacles to carryout preceptor's role, clinical role and personality traits respectively.

Figure (1): Illustrated nurses' total skills levels and mean of score about preceptor roles and responsibilities pre and post-preceptorship program. The table showed highly statistically significant difference at ($P<0.001$). Pre- preceptorship program the majority (93.7%) of nurses were low practice levels of preceptor roles and responsibilities. Post- preceptorship program 82.5% of them were high skills level.

Table (4): Revealed nurses' levels of skills regarding preceptor roles and responsibilities pre and post preceptorship program. The table showed that there was highly statistically significant difference at ($P<0.01$). Pre- preceptorship program the most 87.5%, 85.0% and 81.3% of nurses had low skills level regarding to management skills, teaching skills and personality traits of nurse preceptor respectively. The table noted that post - program 87.5%, 82.5% and 76.2% of

nurses were high practice level related to management skills, communication skills and teaching skills respectively

Table (5): Illustrated correlation between total nurses' knowledge and skills about preceptor roles and responsibilities pre- and post-preceptorship program. The table revealed that there was statistically highly positive significant difference between total nurses' knowledge and skills about preceptor roles and responsibilities at ($P<0.01$).

Pre- preceptorship program most 80.2% of nurses who were poor knowledge had low skills level but, post- preceptorship program 82.2% of nurses who were good knowledge had high practice level.

Table (1): Percentage distribution of nurses' personal characteristics (n=80)

Nurses' personal characteristics	Nurses	
	No	%
Age in years		
< 30	9	11.3
30 - < 40	53	66.2
40 - 50	18	22.5
Range	24 – 46	
Mean ± SD	35.587 ± 5.22	
Gender		
Male	8	10.0
Female	72	90.0
Working department		
General Intensive Care Unit	18	22.5
Cardiac Care Unit	9	11.3
Intermediate Care Unit	11	13.7
Neonate intensive care Unit	23	28.7
Neurology unit	9	11.3
Pediatric intensive care unit	10	12.5
Level of Education		
Nursing Diploma	5	6.3
Nursing Technical Diploma	22	27.5
Bachelor Degree	43	53.7
Post –Graduate Degree	10	12.5
Marital status		
Married	69	86.3
Single	6	7.5
Divorced	3	3.7
Widowed	2	2.5
Years of experience		
Less than 5 years	7	8.7
5 – <10 years	19	23.7
10 - < 15 years	25	31.3
15 - < 20 years	17	21.3
≥ 20 years	12	15.0
Range	3 – 25	
Mean ± SD	12.725 ± 5.64	

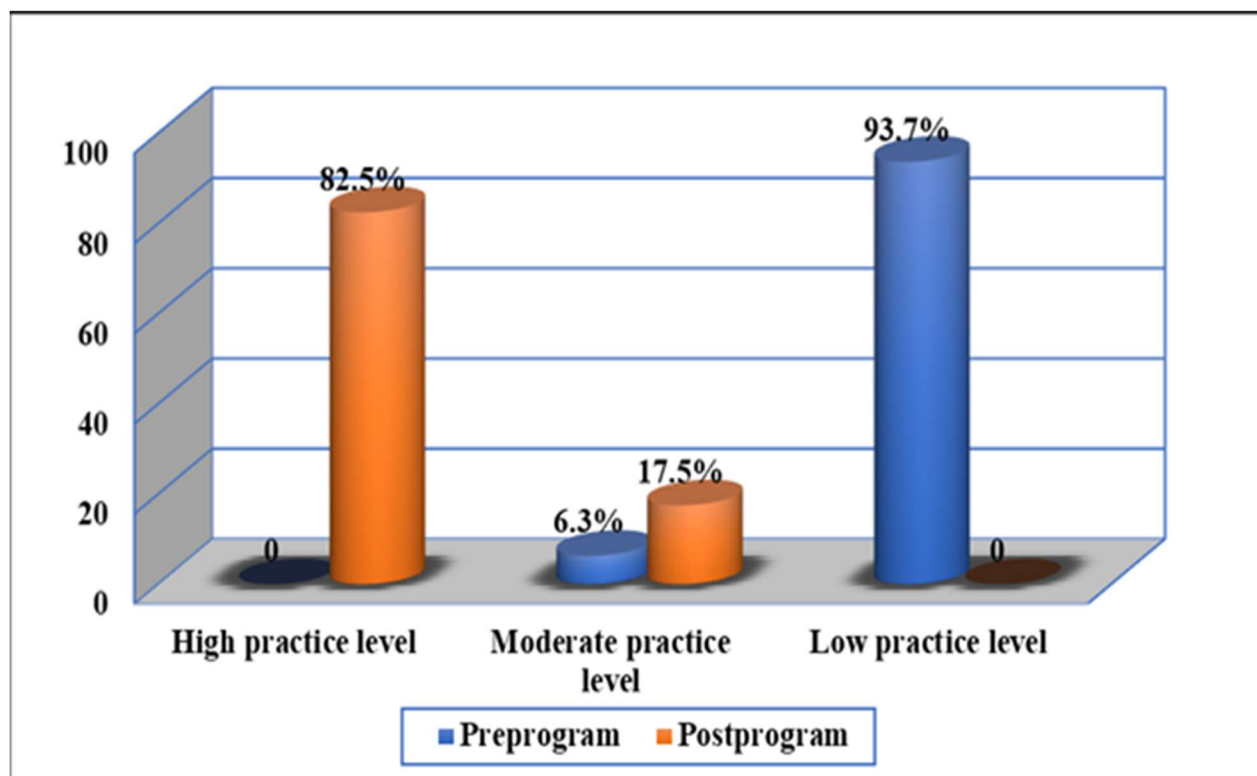
Table (2): Nurses' knowledge levels about preceptor roles pre, and post- preceptorship program (n=80)

Total nurses' knowledge levels	Nurses					
	Pre- program		Post - program		Chi-square	
	No	%	No	%	χ^2	P- value
Good knowledge	0	0.0	68	87.5	160.00	0.0001**
Fair knowledge	20	40.0	4	2.5		
Poor knowledge	60	80.0	8	10.0		
Range	17 – 42		57 – 73		t-test	P- value
Mean \pm SD	33.55 \pm 5.31		65.85 \pm 4.09		42.638	0.0001**

Highly Statistically Significant Difference at (P=0.001)

Table (3): Levels of nurses perception about preceptor role preprogram and its dimensions (n=80)

Preceptor 'roles	Nurses' perception						Range Mean \pm SD
	High		Moderate		Low		
	No	%	No	%	No	%	
Clinical role	74	91.0	0	0.0	0	9.0	33 – 44 39.06 \pm 2.76
Teaching role	64	80.0	9	11.3	7	8.7	43 – 79 66.97 \pm 8.22
Communication role	64	80.0	12	15.0	4	5.0	29 – 48 40.01 \pm 4.94
Management role	68	89.0	0	11.0	0	0.0	42 – 62 52.61 \pm 5.55
Perceived role as a preceptor	62	77.5	18	22.5	0	0.0	12 – 19 16.05 \pm 1.99
Personality traits	72	90.0	8	10.0	0	0.0	56 – 70 62.73 \pm 3.64
Obstacles to carryout preceptor's role	78	97.5	2	2.5	0	0.0	32 – 42 37.22 \pm 2.33
Total Nurses Perception	76	93.0	4	5.0	0	0.0	280 – 336 314. 67 \pm 12.17



High skill level Moderate skill Low skill level

Figure (1): Nurses' total skills levels and mean of score about preceptor roles and responsibilities pre and post - preceptorship program (n=80)

Table (5): Nurses' levels of skills regarding preceptor roles and responsibilities pre and post program and its dimensions (n=80).

Preceptor skills		Nurses skills						Chi-square		
		High		Moderate		Low		χ^2	P- value	Range and Mean \pm SD
		No	%	No	%	No	%			
Clinical skills	Pre	2	2.5	21	26.2	57	71.3	104.44	0.0001**	2-15 9.18 \pm 2.55
	Post	56	70.0	23	28.7	1	1.3			
Teaching skills	Pre	1	1.3	11	13.7	68	85.0	121.579	0.0001**	11 – 24 16.48 \pm 2.70
	Post	61	76.2	17	21.3	2	2.5			
Communication skills	Pre	0	0.0	17	21.3	63	78.7	124.108	0.0001**	6 – 13 9.80 \pm 1.80
	Post	66	82.5	12	15.0	2	2.5			
Management skills	Pre	2	2.5	8	10.0	70	87.5	123.13	0.0001**	8– 18 11.32 \pm 1.99
	Post	62	87.5	16	20.0	2	2.5			
Personality traits	Pre	0	0.0	15	18.7	65	81.3	114.739	0.0001**	11 – 21 15.64 \pm 2.15
	Post	53	66.2	25	31.3	2	2.5			
Total nurses' practice skills	Pre	0	0.0	5	6.3	75	93.7	145.26	0.0001**	
	Post	66	82.5	14	17.5	0	0.0			

Table (6): Correlation between total nurses' knowledge and skills about preceptor roles and responsibilities pre and post preceptorship program (n=80).

	Total nurses' knowledge													
	Pre- program						Post -program						Chi-square	
	Good		Fair		Poor		Good		Fair		Poor			
	No	%	No	%	No	%	No	%	No	%	No	%	χ^2	P- value
High skills level	7	6.5	0	0.0	0	0.0	66	82.5	0	0.0	4	6.0	9.670	0.002**
Moderate skills level	2	2.5	11	14.8	5	6.3	12	15.0	2	2.5	4	6.0		
Low skills level	0	0.0	0	0.0	55	80.2	0	0.0	0	0.0	0.0	0.0		
R					0.160				0.793				0.0	
P					0.157				0.001*					

Discussion

The nurse preceptorship program is a powerful way for nursing education that help newly nurse's transition from student nurses to professional nurses. Nurse preceptors help newly nurses by providing support and guidance during this critical time to be well prepared to provide safe and effective care to patients, (Sherrod, et al., 2020). Nurse preceptor is the most resources for success nurse preceptorship from where, well preparation, good qualifications and skills. Effective role of nurse preceptor enhances in precepting newly graduated nurses during preceptorship program (Pohjamies, et al., 2022).

Regarding nurses knowledge, results of the present study showed that the most of nurses had poor knowledge level about preceptor roles pre-preceptorship program, but post- preceptorship program the most of nurses had good knowledge level. This may be due to the pre- preceptorship program many nurses do not give attention to positive educational experience of the role of preceptor and preceptorship program. While post preceptorship program nurses gain knowledge about preceptor roles, duties and responsibilities and they build confidence and competence that maintain autonomous professionals.

This study was in agreement with Serafin, et al., (2021) who founded that the primary and fundamental step in retention strategies preceptorship program inside health organization is lack sufficient knowledge to do preceptor role and lack properly resourced and organized preceptorship that considered positive and essential experience for nurses. Also, these results were similar with Powers, et al., (2022)

who reported that most of the nurses stated that preceptorship is “allowing nurse preceptor to perform the preferred task without interference, gain knowledge and give guidance as possible.

Regarding to levels of total nurses perception about preceptor role pre-preceptorship program results of the present study showed that the majority of nurses had high level of perception about preceptor role related to obstacles to carry out preceptor role, clinical role and personality traits. This may be due to obstacles that prevent them to carry out their duties effectively. Also, nurses need to knowledge about preceptor role and will take on preceptor role in clinical area. Nurses in preceptorship program receive specific training about their roles a responsibility. This study supported by Kocaman, et al., (2021) indicated that lack of facilities, work overloads and bad administrative support causes challenges to carry out preceptor role.

As matched with this study Griffes, et al., (2022) indicated that one of effective preceptor role into clinical environment use evidence-based practice to help new nurses providing useful feedback, setting learning objectives and encouraging clinical thinking. In the same line with this study Kim, et al., (2022) mentioned that good personality traits of nurse preceptor increase newcomer nurses intention to gain knowledge, increase self-confidence, decrease work retention, and improve transition shock. In contrast with this study Hallaran, et al., (2023) found that personality traits of some preceptor had mixed feeling, on one hand, they feel overwhelmed and think that nurses can cause risk to patients and at the same time

understand the preceptorship improve quality care and nurses skills.

The current study showed pre-preceptorship program the majority of nurses were low skill levels of preceptor roles and responsibilities and post-preceptorship program the majority of nurses were high skill level. This result may be due to nurses who act as preceptors receiving limited exposure to this aspect of their profession during their initial training, leading to a lack of knowledge and understanding, limited practical experience. Nurses may not have sufficient opportunities to serve as preceptors or work closely with preceptors during their clinical rotations or early career stages. But post program nurses who had completed preceptorship program often have a high level of practice and understanding of their roles and responsibilities as preceptors which they enhanced knowledge and skill development that helps them to develop critical skills. In the same line of this study, **Calattye , (2023)** mentioned that preceptorship requires effective communication, mentoring, and coaching skills that nurses might not have honed during their initial training and lead to low practice level if not attend preceptorship program while post program. Preceptors' knowledge is significantly increased after attending preceptorship programs. The result of the current study not similar with the study of **Jönsson, (2022)** who noted that low percent nurses knowledge not improved due to lack comprehensive preceptorship program , lack of follow up and reinforcement after completing preceptorship program . The present study showed nurses' levels of total skills regarding preceptor roles and

responsibilities pre and post preceptorship program. Pre- preceptorship program the most of nurses had low practice level regarding to management skills , teaching skills and personality traits of nurse preceptor respectively. The table noted that post -program high percent of nurses were high skill level related to management skills, communication skills and teaching skills respectively. This result may be due to before participating in a preceptorship program, nurses had limited opportunities to apply their theoretical knowledge in real clinical setting. This lack of practical experience can result in lower skill level. Which improved the post-preceptorship program, as nurses can handle their skills effectively. In the similarity of this study, **Rosli, et al., (2022)** itemized that preceptorship program provides nurses with effective learning environment that allow them to apply their theoretical knowledge and maintain high skill levels. Also, **Pandelaki, et al., (2023)** stated that nurses preceptor who learn evidence-based approach can contribute high skill level and bridge gap between theory and practice than preceptor not exposure to preceptorship program. Not parallel to this study, **England, (2022)** mentioned that individual factors as motivation, dedication, and willingness to learn play important role in preceptor nurse skills improvement. Lack motivation or fail to engage in learning during preceptorship program the nurses skills do not progress as desired. That there was statistically highly positive significant difference between total nurses' knowledge and skills about preceptor roles and responsibilities at ($P < 0.01$). Pre-preceptorship program most of nurses who were poor knowledge had low practice

level but, post- program most of nurses who were good knowledge had high skill level. From the researcher point of view , pre- preceptorship programs nurse preceptor not have all data need for do their roles and responsibilities effectively which changed post preceptorship that preceptor nurses provide with structured learning environment where new nurses can receive guidance, support, and mentorship from experienced preceptors. This study was supported by **Sackey, & Ivy, (2022)** who itemized that nurses who are motivated and have a positive attitude towards their role as preceptors are more likely to actively seek out opportunities for learning and improvement. This motivation can lead to increased knowledge acquisition and skill development in preceptorship. Also, nurses who engage in continuous professional development activities, such as attending workshops or conferences related to preceptorship, are more likely to stay updated with the latest evidence-based practices in this area. Not similar with this study, **EL-Sayed, et al., (2023)** who founded that there was disconnection between nurses knowledge and their practice despite receiving training and education about preceptorship due to lack practical experience, while nurses may receive theoretical knowledge during their training, the practical application of that knowledge may require hands- on experience. It is possible that nurses may not have had enough opportunities to apply their knowledge in real-life situations, leading to gap between what they know and how they practice.

Conclusion

The most of nurses had poor knowledge level about preceptor roles pre-

ceptorship program and this level improved post- preceptorship program. Pre- preceptorship program the majority of nurses were low skills levels of preceptor roles and responsibilities. But, post- preceptorship program most of them had high skills level. Also, there is statistically highly significant difference between nurses' knowledge and skills about preceptor roles and responsibilities post preceptorship program. There is negative correlation between nurses' perception, knowledge and skills pre- preceptorship program.

Recommendations

Based on the results of the present study, the following recommendations are suggested:

- Design and implement periodical preceptor ship program to provide effective preceptor and to sustain nurses knowledge and performance.
- Eliminate organizational barriers for implementing preceptorship program by adopting policies and rules that support preceptor role.
- Good observe nurses performance frequently and give proper support for good contribution.
- Encourage open and effective communication between newly nurses and preceptors to builds trust and enhances patient outcomes.

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