

## ▪ Basic Research

### Competency-based Transition Training Program for Internship Nursing Students regarding COVID-19 Variant using Benner's Model

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#### Abstract

**Background:** Globe spread of Covid-19 had a momentous consequence on people of all nations, races, and socio-economic groups. Likewise, the rigorousness of the illness's incidence has increased melodramatically and challenged the responsibilities of nursing profession for keeping the population health. The present study aimed to assess competency-based transition training program for internship nursing students regarding COVID-19 variant using Benner's Model **Methods:** A quasi-experimental design was used in this study. The study was conducted at 15 May Isolation Hospital Out-Patient Clinic, Egypt. A convenient sample that included 50 of internship nursing students. **Tools:** Two tools were used as Structured Interview that covers four parts as Part I: demographic characteristic, part II: internship nursing students' knowledge part III: internship nursing students' attitude, part IV: reported usual practices and 2<sup>nd</sup> tool of Observational Checklist that cover one part as Benner's Model competency skills stage in (pre and post).

**Results:** This study showed statistically significant improvement in internship nursing students' knowledge, attitude, usual reported practices and competency skills ( $45.68 \pm 6.84$  to  $90.80 \pm 11.50$ ) ( $58.00 \pm 9.37$  to  $79.67 \pm 2.83$ ) ( $54.74 \pm 7.93$  to  $68.37 \pm 1.15$ ) ( $48.66 \pm 3.86$  to  $73.60 \pm 5.17$ ), respectively pre vs. post program with ( $p < 0.05$ ). **Conclusion:** The current study revealed importance of competency-based program for internship nursing students to improve their knowledge, reported practices, attitude and competency skills. **Recommendation:** Adopting of competency-based transition training program for nurses in different health care setting.

**Keywords:** Benner's Model, Competency-based program, COVID-19, Internship, Nursing students, Training program, Transition, and Variant.

## **Introduction**

COVID-19 is a catching disease triggered by a new type of coronavirus allied with the intense acute respiratory syndrome (SARS). The COVID-19 was first said on 31 December 2019 in Wuhan, China, and has changed into a global crisis affecting at a fast pace all the international locations over the world, the modern day figures, on the time of writing, display greater than 298.915.721 million cases global with a death toll exceeding 5.469.303. Given the character and burden of COVID-19 pandemic, unparalleled challenges have faced communities, governments, and health care systems, the arena health enterprise (WHO) declared this sickness as a virulent disease on 11 March 2020 (WHO, 2022).

The COVID-19 epidemic has impacted health care in ways never earlier than imagined. Versant quick responds back to the crisis by using revising transition to practice strategies to meet escalating staffing demands whilst keeping the integrity of a competency-based transition application. Clients have located themselves to absolutely adopt the program when wished as a way of meeting staff challenges. The Versant accelerated Competency Validation program is uniquely acceptable to offer emergent staffing solutions and lets in for aggressive deployment of staffing sources necessary to offer secure, consistent patients care at the same time as helping group of workers at some point of a time of disaster (Gorbalenya, 2020).

Nurses are directly responsible for facing infected patients and suspected persons. They may be at the frontline of the COVID-19 pandemic and are exposed to dangers that placed them prone to contamination. A latest booklet (6 may 2020) by means of the Worldwide Council of Nurses indicated that greater than 90 000 health-care employees around the world were infected with COVID-19, of which 260 nurses had died, amounting to 2.195% of overall confirmed COVID-19 cases. Adding, the World Health Organization (WHO) indicated that 194 member states are not providing comprehensive figures on health worker infections while dealing with the unprecedented crisis (Hui et al., 2020)

Competency is a continuing process in nursing and it is part of ongoing education, practices and certification programs and is a prerequisite for licensure testing. The code of ethics in nursing practice dictates nurses to be competent to provide the community with safe efficient care. Nursing perceived competencies are generally deliberated to signify a dynamic combination of knowledge (basic for specialized), skills (assessment, critical thinking, communication, time management, technical skills, teaching, and customer services) and abilities (caring, character and professional presentation) which donate to appreciative (Kohrt et al., 2018).

There are five components considered nursing competency subsisting within elements; A) professional and ethical practices through applying knowledge, working towards ethically and construction intrapersonal relationship; B) the capability to provide holistic patient centered care C) inter-professional communication D) Managing people, quality and work environment through the ability to develop quality nursing care and expanding their professional capacity E) informatics and technology by making sure the shipping of excessive high-quality nursing care (Kohrt et al., 2018).

The training program has become huge undertaking and a concern; for sustainable education, defined as a workshop for hired paraprofessionals, specialists, and other practitioners to acquire new knowledge, better methods, and improving their skills toward greater powerful engagement and enhancing operational performance, drive sustainable growth, efficient and competent rendering of provider in diverse fields and to numerous corporations of human beings. Further, improve employee's competence, security and motivation product Protection, enhance reliability and production efficiency, and progress the quality of programming for the development in service, with dedicated instructors and experts in the field (Che Mohd Zulkifli, 2014).

Benner's model labels how nursing students bypass through five stages of proficiency, as they progress a new skill; novice, advanced beginner, competent, proficient, and expert. This model may help assessor to identify those areas of skill and knowledge requiring further development. It is expected that the level of competency to be assessed at this remarkable time could NOT exceed the competent domain, according to Benner's 'Novice to Expert' model (Benner, 1982).

Internship is a student-centered learning experience related to a specific academic study field under the direction and supervision of their respective educational institution and training site, through which these students learn to provide direct patient care, gain hands-on experience, and improve assessment skills. Internship nursing students progress from dependent supervised practice to independent collaborative practice, having the opportunity to gain practical experience in real-life scenarios with actual patients and incorporating certain professional attitudes, values, and beliefs (Ghazy & El Shahat, 2021)

### **Significance of the study:**

Egypt is a common from the five international locations reporting the highest number of covid 19 cases in Africa .the first case in Egypt recorded 15 February and the largest number become recorded on 23 May. The day by day range of deaths is likewise on the upward push with little fluctuations over the specified term. Largest wide of deaths recorded from Jan 2021 to January 2022; there had been 390,294 showed instances of COVID-19

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with 21,882 deaths. The COVID-19 epidemic curve looks flattened, although it indicates that Egypt continues to be within the rising phase of the epidemic (WHO, 2022).

Nurses usually work on the front lines of care, and they have the most contact with patients. In this crisis, nurses play an essential function facing complex COVID-19 cases that require hospitalization, often with preexisting health vulnerabilities and complications or mortality. For this reason, they work under physical and emotional pressure, putting their lives at risk while fulfilling their duties, particularly while the protective equipment and safety procedures are inadequate and the work context is rather disorganized and chaotic (Choi et al., 2020).

Nurses help in providing support along the continuum of care, from promotion, to prevention, treatment, and rehabilitation to end-of-life care, and play key roles in empowering patients, facilitating teamwork throughout disciplines, and providing people-centered care. Offer quality care, share health information, implement infection prevention and control, serve in intensive care units, and ensure routine services continue to be delivered (Choi et al., 2020).

**Aim of the study:** the current study aimed to assess the effect of competency-based transition training program for internship nursing students regarding COVID-19 variant using Benner's Model through the following objective:

1. Appraise internship nursing students' knowledge, attitude and usual reported practices regarding COVID-19 variant.
2. Assess internship nursing students' competency stage of banner's model regarding COVID-19variant.
3. Design, plan, implement and evaluate competency-based transition training program based on Banner's model competent stage for internship nursing students toward COVID-19 variant.

**Research hypothesis:**

After applying the competency-based transition training program, the internship nursing students' knowledge, attitude, usual reported practices and competency skills will be enhanced.

**Operational definitions:**

**The internship nursing students:** Internship nursing students are students at fifth level nursing college who spend 12 months training in clinical settings under supervision of their educational institutions.

**Benner's Model:** Nurse practitioners, educators, and researchers can use this model in the clinical setting to provide new knowledge and contribute forms for evaluating the

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performance of internship nursing students. This influences their learning attitudes, promotes professional competency development, and allows students to gain the knowledge and skills required for practice.

## **METHODS**

**Research design:** A quasi-experimental design was used in this study.

**Setting:** this study was carried out at Outpatient clinics as (emergency clinic, chest and medical outpatient clinic) in 15 May Isolation Hospital.

**Sample size, type, and technique:** The required sample size was 50 internship nursing students from 55 internship nursing students recorded in previous year (2019/2020) grounded on the following equation

$$n = \frac{t^2 \times p(1-p)}{M^2}$$

n= required sample size

t= confidence level at 95%

p= estimated population

m=margin of error at 5%

A convenient sample was used to select 50 internship nursing students excluded 10% for pilot study that denote 5 internship nursing students to be rest 50 internship nursing students from previously mentioned setting through completion the intended sample.

## **Tools of data collection**

Data were collected using the following tools: (1) interview questionnaires that cover the subsequent parts:

### **A) Demographic characteristic:**

This sheet was deliberate by the researchers after reviewing literature; for the purpose of collecting personal and demographic characteristics of internship nursing students which included age, gender, level of education, occupation, experience years and marital status.

### **B) Internship Nursing Students Knowledge Questionnaire**

**Adapted from WHO, 2020** contain 25 items and was used to measure knowledge level about different features of COVID-19 variants; as COVID-19 causes, mood of transmission, spreading COVID-19 through 5G mobile networks, methods are effective for prevention and treating COVID-19, contributing factors and risk persons, protection methods through using disinfected material, triage option, isolation technique, personal protective equipment, quarantine, cured, infectious disease case reporting, Medical waste disposal, management

methods, vaccination and recovery, and occupational exposure emergency response. Each of them included level of responses to choose the best fitting answer.

**Scoring:**

Yes = 1 no = 0

Scores for overall knowledge (25 scores), categorized as follows:

Poor (<60%) (0-<15 grades)

Average (60-75%) (15-18.75 grades)

Good (>75%) (>19-25 grades)

**C) Attitude Questionnaire:**

It contained 25 items, and **adapted from Olum et al, 2020** as agree that COVID-19 will finally be effectively controlled, had confidence that Egypt can win the battle against the COVID-19 virus, afraid to go to common places in order to avoid infection. Can the MERS-CoV infection be prevented, Can MERS-CoV about infection be cured, protective measures sufficient for prevention, avoid contact with infected case, think that being had a chronic disease are at a higher risk of getting infected from coronavirus, feel that routine dietary advice following will weaken immune system and make more prone to get infected with coronavirus, think that regular hand washing, maintaining social distancing and use of masks can protect from coronavirus, think lockdown will be helpful in controlling the coronavirus disease / COVID-19 in Egypt, accept isolation in health facilities ,conscious about the guideline given by WHO agree that practicing quarantine by staying at home and avoiding crowded places can help prevent getting infection, believe that a good option to prevent getting infection focusing on improving immune power, think that COVID-19 will remain in the world forever, and afraid of working in places where patients suspected of COVID-19 infection are admitted /cared for.

**Scoring:**

Disagree = 1 not sure = 2 agree=3

Scores for overall attitude (75 scores), categorized as follows:

Negative (<60%)

Positive (60-100%)

To calculate the score for each of these items, calculate the mean of the responses to subscale items.

**d) Internship Nursing Students Usual Reported Practices**

It contained 28 items, and **adapted from WHO, 2020** as general practices (standard preventive measures, airborne precautions for aerosol-generating procedures, personal protection, hand hygiene, before diagnosis and triage, patient management, proper zoning,

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strict environmental disinfection proper disposal of medical waste, occupational exposure emergency response and training on in-hospital infection

Scoring:

Never = 1, sometimes = 2 and always = 3

Calculate the score for overall reported practices; calculate the mean of all 28 items.

Scores for overall practices (84 scores), categorized as follows:

Unsatisfactory (<60%) (0-<50 grades)

Satisfactory ( $\geq 60$ ) (50-100 grades)

**2<sup>nd</sup> Tool Observational Checklist** for competency-based transition using Benner's model **competency stage: adapted from Benner (1982), College and Association of registered nurses of Alberta, (2013) and Sharon et al., (2020)**; it contains five subdomains that includes 30 items. Each of them included levels of responses to choose the best fitting answer.

**Subscales of competency:**

- 1. Professional and ethical practices:** as 1- offer the best health care to patients without discrimination, 2- Show self-management and awareness, 3- Apply the national health policy, guidelines and recommendations. 4- Apply principles ethically in patients care with severe illness and their families, 5- Validate professionalism, 6- Respects the dignity, 7- Establish respect to patients' privacy and confidentiality and 8- making judgment's guided by senior colleagues within defined policies, procedures and protocols.
  - 2. Holistic patient-centered care:** as 1- Ways holistic and performs a focused respiratory assessment, 2- Provide holistic and practicing infection prevention, 3- Assess, plan, and treat bio psychosocial for patients and their families to improve serious illness quality of life, 4- Retain patient safe and protect from harm. 5- Appraise patient and family consequences care within the background of patient goals of care, national quality standards, and value.
  - 3. Managing people, quality and work environment:** 1- Disaster preparedness and response, 2- Utilizing antiseptic techniques, 3- Demonstrate an investigatory and diagnostic thinking methods 4- Progress the skills required to prevent COVID-19 transmission, 5- Stimulate health against COVID-19 and anticipate when priorities, 6- Provide value optimal care, 7- Labor with flexibly and remain calm under stress and under changing conditions, 8- Deliver competent, compassionate, and culturally sensitive care, 9- Appreciates the value of asset-based community development (ABCD) and recognizes its use during Covid-19 Pandemic.
  - 4. informatics and technology:** 1- Use of telecommunication and digital technology in new ways regardless of location, 2- Has information of the signs of Post-Traumatic Stress
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Disorder and the ability to recognize ‘trigger points’ both for self and other team members and 3- Establish vision into the significance of staff mental health and physical well-being as a result of the Covid-19 Pandemic.

- 5. Inter-professional communication:** -1- Growth of essential and impactful companies within and across different health care organizations and diverse professional disciplines, 2- Collaborate with members of the inter-professional team to improve care for patients with serious illness. 3- Instruct and connect efficiently and compassionately about covid 19 care issues with the patient, family, health care team members, and the public and 4- Clarify all information regarding COVID-19 to community.

**Scoring:**

Never = 1, sometimes = 2, always = 3

Calculate the score for overall competences; calculate the mean of all 30 items with 5 subdomain responses.

Scores for overall competences (90 scores), categorized as follows:

Low (<60%) (0-<54)

Medium (60-75%) (54-67.5)

High (>75%) (>67.5-90)

- 6. Tools content and face validity:**

To attain the standards of trust worth of tools of data gathering in this study, the tools were verified and assessed for content validity by three experts from faculty members in nursing and medical fields. Different academic categories and different specialties were represented in the group such as; medical health nursing, and community health nursing. To determine significance, unambiguousness, and wholeness of the tools, specialists provoked responses were either agree or disagree for the face validity.

- 7. Tools reliability:**

Dependability of the tools that was assessed through 20% of cases using the developed questionnaires and revision was done after 7 days on the same sample and the results were the same each time. Cronbach’s alpha was computed for reliability analysis of our questionnaire, which was calculated as 0. 873.

- 8. Pilot study:**

The pilot study was conducted on 10% (5 patients) from total sample, at the isolation hospital outpatient clinic, in order to ensure the precision and applicability of the tools and estimate the time needed to complete them.

- 9. Ethical Considerations:**



An Ethical Approval was obtained from Faculty of Nursing Ethical committee, Helwan University after providing an explanation regarding the purpose of the study. The arrangements for involvement were taken after the aim of the study was explained before data collection; the internship nursing students were informed about the goal of the study. They were given chance to refuse participation and informed that they could withdraw at any stage of research at any time without giving any reason. Also, certain that, the facts given would remain private and used for the research purpose only as it is an ethical reflection for any research.

#### **10. Field work:**

The field work ongoing in March 2021 to August 2021. The researchers complete two visits /week in previous settings for ten months, (Sundays & Mondays, from 10.00 a.m. to 12.00 afternoon). The typical time needed to complete the tools extended from 30-45 minutes.

#### **11. Competency program construction:**

It consisted of three stages, as the following.

##### **I. Preparatory phase:**

The following actions were attained through the next steps:

certified letter consent to conduct the study become acquiesced from the Dean of the Faculty of Nursing, Helwan College to the Director of the Isolation Clinic Outpatient Medical Institution, and tent quarantine in Egyptian Red Crescent. This letter included the intention of the study and a print from the data collection tools so that it will get the approval and cooperation.

Then, the researchers met internship nursing students who determined to take part within the look at and make clear the intention and goal of the study as evaluating the competency-based transition training program for internship nursing students regarding covid 19 variant using Benner's Model, highlighting that all records is firmly personal, then oral or written approval settlement researchers stayed with the internship nursing students to establish trust dating and gain his/her cooperation in responding to interview sheet and scale implementation inside the observe.

Assessment the usage of the preceding tools was completed by using revising past and contemporary literature covering the numerous components of the research in books, articles, periodicals, magazines and studies related to the studies have a look at.

##### **II. Implementation phase:**

The researchers alienated the study sample to four minor groups, to put into effect classes. Special training strategies have been used along with; group discussions to permit every

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person specific his/ her emotions and former enjoy, when dealing with that disease. This section commenced via implementing the program. The researchers dispensed the handouts to the participant and this system was carried out within the shape of periods. The content was covered in (24) weeks, that overview of covid 19 causes, temper of transmission, spreading COVID-19 via 5G cellular networks, strategies are powerful for prevention and treating covid, contributing elements and persons, safety methods thru the use of disinfected fabric, triage option, non-public defensive systems, quarantine, cured, control techniques, vaccination and restoration and competency as professional and ethical practices, holistic patient-centered care, handling humans, exceptional and work environment informatics and era, inter-professional conversation and specialized skills used in prevention and manipulate of covid 19.

### **III. Evaluation phase:**

Upon the success of program, the put up take a look at turned into finished for internship nursing students to approximation the effect of this program the use of the equal preprogram tools.

### **12. Statistical Design:**

Statistics were examined the usage of the statistical package for social sciences (SPSS) version 16. Quantitative statistics were supplied as number and percent. Mean and standard deviation for each of the demographic, data, and t test and Chi-square test were recorded comparison between pre and posttest;  $P < 0.05$  was measured to be statistically significant.

### **13. Results:**

Table (1): shows that 70% were females and 64% were single. 100% of studied sample had bachelorette educational level, work as internship nursing students and had experience less than 5 years, with mean age  $22.22 \pm 5.19$ .

According to the research hypothesis, which stated competency-based transition training program for internship nursing students regarding COVID-19 using Benner's Model will improve their knowledge, attitude, reported usual practices and competency- stage of Benner's Model was approved in tables (2, 3, 4, &5) and figures (1).

**Table (2):** Delineates statistically significant improvement in internship nursing students' knowledge preprogram versus post program at p value 0.000.

**Table (3):** Demonstrates that 66% of studied internship nursing students had negative attitude preprogram that changed to 90% had positive attitude post program.

**Table (4):** shows highly statistically significant improvement in internship nursing students usual reported practices compared to the baseline.

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**Table (5):** Illustrates that competency stage sub items had changed dramatically preprogram versus post program among studied sample.

**Table (6):** displays that 94% of studied sample had low competency level preprogram that improved to 80% who had medium level post program.

**Table (7& figure 1):** Proves that dramatically change in Benner's Model competency stage sub items preprogram versus post program.

**Table (8):** shows significant positive correlation among studied sample knowledge, attitude, usual reported practice and Benner's competency stage post program

**Table (1): Distribution of Demographic Characteristics of the Studied Sample (N=50).**

Demographic data	The studied sample (n=50)	
	No.	%
<b>Age:</b>		
Mean $\pm$ SD	22.22 $\pm$ 5.19	
<b>gender:</b>		
Male	15	30
Female	35	70
<b>Social status:</b>		
Single	32	64
Married	18	36
<b>Educational level</b>		
Bachelorette in nursing	50	100
<b>Tittle of the job</b>		
Internship nursing students	50	100
<b>Work experience (years)</b>		
<5	50	100

**Table (2): Mean Difference Scores of Total Knowledge among Internship Nursing Students Pre and Post program (n=50).**

Total knowledge scores about covid 19	internship nursing students pre and post applying program				$\chi^2$	P
	Pre-applying		Post- applying			
	No.	%	No.	%		
<b>Total knowledge level</b>					<b>32.14</b>	<b>0.000</b>
Poor	36	72	--	---		
Average	14	28	10	20		
Good	---	---	40	80		
<b>Mean scores of total knowledge pre applying:</b> Mean $\pm$ SD	45.68 $\pm$ 6.84					
<b>Mean change of scores of total knowledge post applying:</b> Mean $\pm$ SD	90.80 $\pm$ 11.50					
Paired T test P	<b>19.20</b> <b>0.000</b>					

\*Significant (P&lt;0.05)

**Table (3): Mean Difference Scores of Total Attitude among Student Internship Nursing Students Pre and Post program (n=50).**

Total attitude scores about covid 19	Internship nursing students pre and post applying program				$\chi^2$	P
	Pre-applying		Post- applying			
	No.	%	No.	%		
<b>Levels of total attitude:</b>					<b>46.94</b>	<b>0.05</b>
negative	33	66	5	10		
positive	17	34	45	90		
<b>Mean scores of total attitude pre applying:</b> Mean $\pm$ SD	58.00 $\pm$ 2.83					
<b>Mean change of scores of total attitude post applying:</b> Mean $\pm$ SD	79.67 $\pm$ 9.37					
Paired T test Sig	<b>18.80</b> <b>0.000</b>					

\*Significant (P&lt;0.05)

**Table (4): Mean Difference Scores of Total Reported Usual Practices among Internship Nursing Students Pre and Post program (n=50).**

Total reported practices about covid 19	practices pre and post applying program				$\chi^2$	P
	Pre-applying		Post- applying			
	No.	%	No.	%		
<b>Levels of total usual practice:</b>					<b>51.55</b>	<b>0.000</b>
unsatisfactory	<b>16</b>	<b>32</b>	----	-----		
satisfactory	<b>34</b>	<b>68</b>	<b>50</b>	<b>100</b>		
<b>Mean scores of total practice pre applying:</b> Mean $\pm$ SD	<b>54.74<math>\pm</math>1.15</b>					
<b>Mean change of scores of total practice post applying:</b> Mean $\pm$ SD	<b>68.37<math>\pm</math>7.93</b>					
Paired T test	<b>23.605</b> <b>0.000</b>					

\*Significant (P&lt;0.05)

**Table (5): Mean Difference Scores of total Competency Stage and sub Domains among Internship Nursing Students Pre and Post program (n=50).**

	Pre applying program		Post applying program		T test	sig
	Mean ± SD	Range	Mean ± SD	Range		
<b>Professional and ethical practices</b>	12.50±2.14	6	19.48±2.47	7	18.28	.000
<b>Holistic patient-centered care</b>	8.28±0.96	3	12.16±1.86	5	13.40	.000
<b>Managing people, quality and work environment</b>	14.40±2.10	12	22.00±2.02	5	22.72	.000
<b>informatics and technology</b>	6.48±0.78	4	7.56±1.10	3	4.92	.000
<b>Inter-professional communication</b>	7.00±1.65	5	12.40±2.52	5	13.43	.000
<b>Total</b>	<b>48.66±3.86</b>	<b>22</b>	<b>73.60±5.17</b>	<b>14</b>	<b>30.21</b>	<b>.000</b>

\*Significant (P&lt;0.05)

**Table (6): Mean Difference Scores of Total Competency stage among Internship Nursing Students Pre and Post program (n=50).**

Total competency about covid 19	Internship nursing students pre and post applying program				$\chi^2$	P
	Pre-applying		Post- applying			
	No.	%	No.	%		
<b>Levels of total competency:</b>						
<b>low</b>	47	94	--	---	<b>68.84</b>	<b>0.001</b>
<b>Medium</b>	3	6	40	80		
<b>high</b>	--	--	10	20		
<b>Mean scores of total competency pre applying:</b> Mean $\pm$ SD	48.66 $\pm$ 3.86					
<b>Mean change of scores of total competency post applying:</b> Mean $\pm$ SD	73.60 $\pm$ 5.17					
<b>Paired T test sig</b>	<b>22.01</b> <b>0.000</b>					

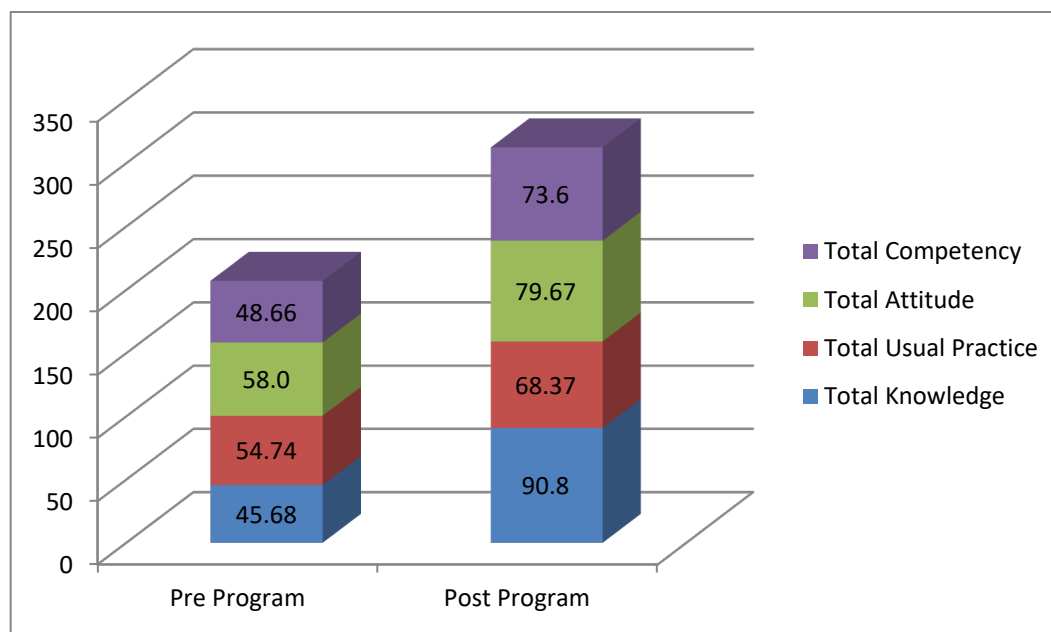
\*Significant (P&lt;0.05)



**Table (7) & figure (1): Mean Difference Scores of Total Benner's Model and Sub domains Competency Stage among Internship Nursing Students Pre and Post program (n=50).**

Benner's Model	Pre applying program		Post applying program		T test	sig
	Mean $\pm$ SD	Range	Mean $\pm$ SD	Range		
knowledge	45.68 $\pm$ 6.84	20	90.80 $\pm$ 11.50	10	19.20	0.000
Usual practices	54.74 $\pm$ 1.15	22	68.37 $\pm$ 7.93	18	23.605	0.000
Attitude	58.00 $\pm$ 2.83	21	79.67 $\pm$ 9.37	10	18.80	0.000
Competency	48.66 $\pm$ 3.86	22	73.60 $\pm$ 5.17	18	22.01	0.000

\*Significant (P<0.05)



**Figure (1): Mean Difference Scores of Total Benner's Model and Sub domains Competency Stage among Internship Nursing Students Pre and Post program (n=50).** Figure (1): illustrate that dramatically change in Benner's Model competency stage sub items preprogram versus post program

**Table (8): Correlation between Changes of Knowledge, Attitude, usual Practices and Competency Based regarding Covid 19 Post applying Program (N=50)**

Change of scores of total knowledge, attitude, practices and competency based	Change of scores of total knowledge, attitude, usual skills and competency based					
	knowledge		attitude		practices	
	r	p	r	p	r	p
knowledge	-----	----				
attitude	0.987	.000	-----	----		
Usual reported practices	0.821	0.000	.885	0.000	----	----
competency stage of Benner's Model	.779	.000	.821	0.000	.868	0.000

\*Significant (P<0.05)

r=Pearson Correlation Coefficient

#### 14. Discussion:

Developing internship nursing student's competencies can assist providing the patients with evidence based, safe and high-quality care, the difficulty of health care surroundings incomes that internship nursing students must contribute in training program that safeguard having the necessary knowledge, skills, and attitudes to deliver quality nursing care. Nursing competence can have a direct influence on optimistic effects for patients and decreased costs for the health care institution. Interventions can be evolved to facilitate transitions and offer support to ensure, expertise, better outcomes, and minimize the effect on nursing student's wellbeing. Henceforth, it is vital to recognize the capabilities of internship nursing students, specifically under the exceptional of the COVID-19 pandemic circumstances, that can assist advance better responses in future health care crises (Casafont et al, 2020).

Regarding gender of internship nursing students, the prevailing look at study findings revealed that, nearly three quarter were females, nearly one third were married and all of them had bachelor educational degree, working as internship nursing students and had work

experience less than 5 years, with mean age  $22.22 \pm 5.19$ . From the researcher opinion this is because of the highest ratio of female representation in health care setting. The central agency for public mobilization and statistics (CAPMAS, 2019) support these results and stated that female nurses constitute (87.7%) of the entire total Egyptian nursing working force.

This is in the identical with Nemati et al, (2020) in a study, titled "Assessment of Iranian nurses' awareness and tension regarding COVID-19 during the present outbreak in Iran" showed nurses as contributors. The majority of the participants within study had been female. Bulks were under the age of 40 years. In terms of educational attainment, more than half of them had associates or bachelor's degrees, even as fewer had master's degrees. Greater than one third of the participants sample had fewer than five years of job experience.

The contemporary observed study illuminated that less than three quarter of studied sample preprogram had poor knowledge which reflected the dearth of tutorial programs for internship nursing students to enhance, update and apprise their knowledge. After program application the study sample showed that significant development in internship nursing students' knowledge. From the researcher point of view this indicates the improvement of internship nursing students' knowledge based totally on imposing of competency-based training program, which might rehabilitate the internship nursing students to offer most advantageous care. This end result was in agreement with Metwaly et al, (2020) who study " impact of small-group teaching on nurses' competency level concerning patients enduring cholecystectomy" and said that there was a statistically increase in the mean score of nurses' knowledge after small-group teaching than before, at ( $P=0.00$ ).

Our observe in steady with Shabaan et al., (2021) in a study "Adapting of (NANDA) Nursing Process as an method of take Care of COVID-19 Isolated patients" who cleared that three quarters of the study sample had knowledge at sufficient degree prior to the education program, even as the entire study sample had complete degree of knowledge after the training program, with a very significant difference.

Abd ElAziz et al, (2021) whose study entitled "Impact of instructional Program for Nurses' Knowledge and Practices concerning Pandemic Covid-19 in Isolation Unit" mentioned that respectively nurses' total knowledge and practices had an improvement post program implementation. But in disagreement with this finding, a study by Nemati et al., (2020) them reported that nurses had almost of knowledge associated COVID-19 at pre evaluation.

Stater et al., (2018) who supposed that teaching packages for nursing staff play critical role for staff nurses through growing and enhancing their skills needed to provide high quality of care to their patients. From the researcher point of view this agreed with the existing examine as nurse's knowledge and practice improved after application of competency based in services training program for nurses.

Apropos the influence of the program about internship nursing students' knowledge, usual practice, attitude and competency level, the present study signified that the comparison between pre-test and post-test showed statistically significant differences among internship student nurses' categories indicating good knowledge, satisfactory practice, positive attitude, and high competency level after the application of the program. This study is steady with Ibrahim et al., (2021) who studied "The effect of Instructional Intervention program about Competency-Based Nursing Learning on planning skills, their recognition during COVID Pandemic and academic's information, " and described that there was a sophisticated improvement in the study group's scores vs. control group regarding CBNE after the conduction of the instructional intervention.

The current study approved with the findings of Elshenawie et al, (2020) in a study about "consequence of Educational Package regarding Rules of Safety Measures on Nurses' awareness, Approach and performance concerning COVID-19 Patients" who stated that post applying educational program equivalent with before the mean total score of nurses practice and attitude about care for patients with COVID-19 meaningfully enhanced but not in the line with results of the study titled "Features defining the knowledge and avoidance training of healthcare workers towards COVID-19 in Amhara region, Ethiopia" carried out by Asemahagn, (2020) who specified that contributors before program application had good practices towards COVID-19.

In concordance with the existing study, Camputaro et al, (2021) who studied "Intensive competency-based training approach in a National Hospital in times of Pandemic" and labeled that in critical COVID-19 patients innovative strategy for the teaching of healthcare personnel significant. Also with Elaine et al, (2021) who studied "Transformed communication competency and nursing education toward COVID 19: Testing comfort educational properties" and reported that important statistical changes were found crosswise of attitude, communication, knowledge and skill.

Regarding competency level among studied sample the current study revealed that significant improvement in internship nursing students competency items and total category post program implementation and these results agreement with Abouzaj , 2019 studied "Competency-Based Approach in Training Nurses and Midwives in Morocco Demystify to

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Better Use" and reported that in a changing and competitive training environment, the adoption of the competency based approach in training of nurses is a real opportunity to improve the capacities of the awardees in order to prepare them to fully accomplish their professional roles.

Also, Heeseung et al, (2020) whose study entitled "Efficacy of the computer simulation-based, interactive communication education program for nursing students" and demonstrated that significantly improvements were noticed in communication knowledge, learning self-efficacy, and communication efficacy among nursing students after program implementation. In the same line with the present study, Imanipour et al., (2021) who studied "effect of competency based education on clinical performance of health care providers: A systematic review and meta-analysis" and concluded that based on the random effects model, competency-based education could enhance the clinical performance of the health care providers in the intervention group compared with that of the control group. In this regard, Bisgaard et al, (2018) in a study entitled "The effects of graduate competency-based education and mastery learning on patient care and return on investment: A narrative review of basic anesthetic procedures" demonstrated that evidence suggested that competency-based education with procedural central venous catheterization courses for nurses had positive effects on patient care and are both cost-effective. Also McCullough , (2017) who studied "Competency-Based Education in Low Resource Settings: Development of a Novel Surgical Training Program" showed that general technical competencies can be improved over a relatively short time and demonstrate the feasibility of incorporating such a training program into surgical outreach missions.

Likewise Fang-Qin et al., (2014) in a study about "Application of nursing core competency standard education in the training of undergraduates nursing " conveyed that in the experimental group were significantly higher than those of the control group In nurses' performance as physical assessment, scenario simulation, health information collection, and communication .Regarding relationship between the total internship nursing student's knowledge score, total attitude, their usual practice scores and competency score: the contemporary study established that there was a highly statistically significant positive correlation among them after giving the program implementation.

Elasrag and colleges, (2021) studied "Impact of Educational Intervention on Nurses' Knowledge, Practice and Attitude Related Prevention Measures of COVID 19 " and illuminated that there was highly positive correlation between nurses' knowledge and practice. The current research finding was comparable with Saqlain et al., (2020), in study

about "Knowledge, attitude, practice and perceived barriers regarding COVID-19 among health-care professionals" found a positive correlation between nurses' knowledge, attitude, and practice. Furthermore, Zhau et al, (2020) who examined "Knowledge, attitude, and practice regarding COVID-19 among health-care workers in Henan", cited that knowledge affects the practice of preventive measures.

On the subject of application of Benner's model competency stage, the present study revealed a significant change in all items post program than preprogram. As reported by Murray et al, (2018) whose study "Benner's model and Duchscher's theory: Providing the scaffold for understanding new graduate nurses' transition to practice" declared that Benner's model competency part of skill gaining for nurses, stages of transition delivers a framework upon that nurse educators, nurse leaders, and managers can shape a sound transition experience for the new graduate registered nurses.

### **15. Conclusion**

The current study results and research hypothesis revealed importance of competency-based transition training program for internship nursing students to improve their knowledge, reported practices, attitude, and competency skills.

### **16. Recommendation**

Continuity of adopting and application of competency-based transition training program for internship nursing students in different health care setting, further studies, and applying other program as educational program, instructional intervention or training to improve health care provider performance and crisis intervention.

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## المخلص العربي

برنامج التدريب الانتقالي القائم على الكفاءة لطلاب تمريض الامتياز فيما يتعلق بمتغير كوفيد19 ومتحوراته باستخدام نموذج بينر

**الخلفية:** كان لانتشار فيروس Covid-19 في جميع أنحاء العالم عواقب وخيمة على السكان من جميع الأمم والأجناس والمجموعات الاجتماعية والاقتصادية. وبالمثل ، زادت حدة الإصابة بالمرض بشكل كبير مما زاد تحدى مسؤوليات مهنة التمريض في الحفاظ على صحة السكان. هدفت الدراسة الحالية إلى تقييم برنامج التدريب الانتقالي القائم على الكفاءة لطلاب تمريض الامتياز فيما يتعلق بمتغير COVID-19 ومتحوراته باستخدام نموذج بينر: تم استخدام تصميم شبه تجريبي في هذه الدراسة. أجريت الدراسة في العيادة الخارجية بمستشفى 15 مايو للعزل ، بمصر. وقد اختيرت عينة ملائمة ضمت 50 من طلاب التمريض المتدربين اى الامتياز. الأدوات: تم استخدام أداتين مثل المقابلة المنظمة التي تغطي أربعة أجزاء وهي: الجزء الأول: الخصائص الديموغرافية ، الجزء الثاني: معلومات طلاب الامتياز الجزء الثالث: سلوك طلاب الامتياز ، الجزء الرابع: الممارسات المعتادة من قبل الطلاب والأداة الثانية استبيان الملاحظة والذي يغطي جزء واحد كمرحلة مهارات كفاءة نموذج Benner (قبل وبعد البرنامج).

**النتائج:** أظهرت هذه الدراسة تحسناً ذا دلالة إحصائية في معرفة طلاب التمريض والمواقف والممارسات المعتادة ومهارات الكفاءة: كشفت الدراسة الحالية عن أهمية البرنامج القائم على الكفاءة لطلاب الامتياز لتحسين معرفتهم ، والممارسات التي اقرروا بفعلها، ومهارات المواقف والكفاءات.

**توصية:** استمرار برنامج التدريب الانتقالي القائم على الكفاءة لمرضات الامتياز في أماكن الرعاية الصحية المختلفة.