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## Enhancing Nurse Interns` Competencies at Emergency Units and Its Effect on Their Satisfaction

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**Abstract:** Successful internship program is fundamental to providing education and training to help the nurse interns make transition from novice to advanced beginner who can demonstrate satisfactory performance and deal with actual and emergency situations before they assume the professional nurses` roles which will increase their satisfaction. Also, emergency care patients benefit from the attention of nurse interns with a high competence level. **Aim of the study:** Enhancing nurse interns` competencies at emergency units and its effect on their satisfaction. **Design:** A quasi experimental design was used in this study. **Setting:** This study was conducted at Emergency Units at Benha University Hospital. **Subjects:** A convenient sample of 75 nurse interns recruited from the presented units. **Tools for data collection:** The study tools divided into four tools. Competencies Knowledge Questionnaire, Performance Observational Checklist, Nurse Interns` Attitude Questionnaire and Nurse Interns Satisfaction Questionnaire. **The results showed that,** there was very highly statistically significant improvement among nurse interns' knowledge, skills and attitude regarding competencies after implementation of the program. There was highly statistical significant improvement in nurse interns` satisfaction level after implementation of the program. As 16.00% of them were satisfied before program implementation which improved to 66.70% immediate post educational program. **The study concluded that,** the implementation of competencies program was significantly succeeded in enhancing total knowledge, skills and attitude of nurse interns that significantly improves their satisfaction level. **The study recommended that,** Conducting continuous in-service training and education programs which contribute much to the development of competencies of nurses and nurse interns at the hospital.

**Keywords:** Nurse Interns, Internship program, Competencies and Satisfaction.

### INTRODUCTION

Enhancing competent, confident and satisfied nurse interns who remain with in hospital is a major challenge. So, competence is a learning outcome for which most hospital based necessity assumes responsibility. The inexcusable fact is that not all institutions are committed to fulfilling their philosophy and mission statements. Some are focused more on its financial survival by reaping profits from oppressed and depressed ill patients. Unfortunate fresh graduates are exploited rather than be trained to be competent, committed and caring professionals in some training-based hospitals. This drastically mislead to the problem of declining quality healthcare professional services (Lazarte, 2016).

Competency is the capacity to do something successfully and efficiently (Oxford dictionary, 2015, Mirlashari et al., 2016). Also, nursing skills competency is important knowledge throughout nursing career, it is part of basic practical skills that is vital to all nursing intern' students and as the attainment of knowledge, intellectual capacities, practice skills, integrity and professional and ethical values required for safe, accountable and effective practice as a Nurse interns. Moreover, competence relates to the nurse's scope of practice within a division of the register, is maintained through continuing professional development. The nurse intern may need to up skill, update or adapt competence if s/he works in a different practice setting especially in emergency units (Gallagher, 2016).

Nursing competency describes skills, knowledge and other characteristics necessary in nursing professional practice.

Competencies can be classified into behavioral and technical. Both of these are based on knowledge and may require professional judgment and clinical decision making. On one hand, technical competencies embrace administering and managing parenteral and enteral medication as well as calculating medication dosage. On the other hand, behavioral competencies include the delivery of nursing scope of practice to others, practicing ethical code for registered nurses, use evidences and critical inquiry to challenge, and support nursing practice. Moreover, these competencies are also practiced in collaboration with other health care providers to respond to rapidly changing complex health (Dorgham, 2013).

Basic competency program for nurse interns including emergency response, infection control and medication safety. A competency program will aid ensuring that nurse interns are able to provide safe, effective nursing care. An ongoing nursing competency assessment based on a competency program will allow nurse interns to self-monitor, increase their strengths, improve weaknesses and apply their abilities to maintain a high standard of nursing practices. Such a program would also encourage nurses to take an active part in the lifelong learning process, assists in identifying gaps in the knowledge, skills, and attitudes of nursing practices, determining required training programs and then its effect on nurse intern's satisfaction Fentianah, (2012). Nurse interns (NIs) are nurse students who will be trained clinically through different specialty of nursing such as medical, surgical, critical care, pediatric, emergency, and obstetric (El-Saman and Makhlof, 2017).

Emergency response refers to any extraordinary event or situation that requires an intense, rapid response and that can be addressed with existing community resources. Also, emergency response can be considered the first life saving measures that applied at emergency department for example, when accidents happen every day and the victim is brought to the emergency room for treatment or life support. It can be a road traffic accident, domestic or caused by human, social or political conflicts. The nurses have to face the challenges of responding to natural, manmade and technological disasters (*Almazwaghi, 2013*).

Infection control is a high priority for medical professionals in healthcare settings and it's a vital in quality improvement and patient safety agendas. Moreover, the basic principle of infection control the basic principle of infection prevention and control is hygiene. It is a very important component in the delivery of any health care. Infection control and measures are many and that the simplest is hand washing before and after any procedure. The most complicated one can be a high-level disinfection of emergency instrument. Implementing these measures can prevent transmission of diseases in the health care setting and especially in emergency setting (*Medline University, 2018*).

Finally, Safe medication administration and preventing medication errors are important issues and is applicable to practicing nurses and nursing students. Nurses play a major role in reducing medication errors (*Gonzales 2011*). Moreover, Medication administration is a common clinical procedure of nurse interns. Medication administration involves intellectual activity in addition to the physical act of medication preparation or administration. It is very important for nurse interns to be trained for performing intravenous (IV) therapy which includes administration of medication both by infusion and injection. It is a particularly difficult and precarious skill as it involves many risks (*Ibrahim, Cynthia and Elizer, 2014*).

Satisfaction was defined as "a pleasurable feeling or positive emotional states that result from positive evaluation of one's job or job experiences" and also, it is a key element that is closely related to the quality of the healthcare service provided. So, in fact, "many new nurse interns expressed satisfaction with their role and recognized opportunities for personal growth and development and others enjoyed the responsibility of working as a staff nurse. Feeling unprepared for the responsibility of the role lead to dissatisfying to newly graduated nurse interns while achieving patient care goals and receiving recognition were satisfied". Furthermore, nurses' job satisfaction can be defined as the fulfillment, gratification and enjoyment that come from the work, it is not just the money or the fringe benefits, but the feelings nurses receive from the work itself (*AL-Mahmoud, Dorgham and Abd EL-megeed, 2013*).

Nursing competency and job satisfaction all related to each other and greatly affect success of organization. Competency has been proposed as a fundamental element in the provision of nursing care on the basis of professional standards. Also, has been extensively addressed in the literature in terms of safety and quality of nursing care. In fact, competency in nurse interns is defined as a

combination of skills, knowledge, attitudes, values and abilities that bring about effective or high performance in occupational and professional positions lead to their satisfaction (*Copeland, 2017*). Furthermore, it is considered as correct judgment and habits in terms of the use of knowledge, technical skills, clinical reasoning, communication, feelings, values and rethinking daily activities aimed at providing services to individuals and the society. There is a need for nurse interns to demonstrate that they are clinically competent to perform certain roles. In this respect, lack of attention to competency in nurse interns can cause problems for organizations and question their activities. Nurse interns' poor competency may lead to some undesirable consequences including nurses' frustration, job dissatisfaction, and their attrition (*Karami, Farokhzadian and Foroughameri, 2017*).

#### *Significance of the study:*

Nurse interns are very critical future manpower in the nursing profession. Nursing work is focused on the care of individuals, families and communities and their approach to patient care, training and scope of practice is different from other health care providers. Competency acquisition and development are associated with performance improvement and in nursing practice competency include skills, knowledge and other characteristics necessary in clinical practice. Also, nurse interns were not sufficiently prepared to work in emergency care units immediately after their internship year. In this regard competencies needed by nurse interns as identified by their preceptors and nurse educators who chose to work as nurses in emergency care units. Nurse interns identified nursing competencies in emergency care units as development of needed skills competencies, knowledge application competencies and strategies for quality improvement. These nurse interns may acquire satisfactory preparation during their internship through continuous evaluation, constant guidance, extended time period and orientation (*Ibrahim, Cynthia and Elizer, 2014*). So, the present study was conducted for enhancing nurse interns' competencies at emergency units and its effect on their satisfaction.

#### *Aim of the Study:*

The study aimed to enhance nurse interns' competencies at emergency care units and its effect on their satisfaction.

#### *Research Hypothesis:*

1. Nurse interns who receive competencies program will have higher mean scores of knowledge, skills and attitudes in clinical practice than before.
2. There will be significant improvement of nurse interns' satisfaction after implementing competencies program than before.
3. There will be a positive correlation between nurse interns' competencies and their satisfaction after implementing program.

## **SUBJECTS AND METHOD**

#### *Research Design:*

A quasi experimental research design with one group pre and posttest assessment used in conducting the present study

#### *Setting:*

The study was conducted at Emergency Units at Benha University Hospital where nurse interns are trained. It consisted of 5 units. As follow: (Accidents emergency, Medicine emergency, Surgery emergency, Pediatric emergency and Orthopedic emergency).

**Subjects:**

**Subjects Type:**

A convenient sample.

**Subjects Size:**

All nurse interns (75) were included in the study. Who were training in the Emergency Units at Benha University Hospital in the academic year 2017-2018 under supervision of the Nursing Administration Department.

**Tools of Data Collection:**

Four tools were used to collect the data for this study.

**Competencies' Knowledge Questionnaire.** It was developed by the researchers to assess nurse interns' knowledge about competencies based on literature review (Salem, 2011, Ebrahim, 2014, Mohamed, 2014, Andrew et al., 2016). It consisted of two parts. **Part one:** include personal characteristics of nurse interns as (age, sex, pre university educational, marital status, training courses on basic competencies. **Part two:** It consisted of thirty questions which are (twenty multiple choice questions and ten true and false questions) covering three main competencies namely, (1) emergency response: Consisted of (ten question), (2), infection control: Consisted of (ten question) and (3) medication safety Consisted of (ten question).

**Scoring system:**

The responses of nurse interns were given (1) for the correct answer and (0) for incorrect answer. The total scores were assumed up and nurse intern's knowledge level was considered satisfactory when total scores were more than (60%) and unsatisfactory when total scores was less than (60 %).

**Performance Observational Checklist:** It was developed by researchers after reviewing related literature (Efstratios, 2012; Geake and Williams, 2104; AboElftoh, 2017). It was used to assess nurse interns` performance regarding implementation of clinical activities. It consisted of (fifty items) as under three main competencies (1) emergency response (fifteen question) [assessment five items, intervention ten items], (2), infection control (fifteen question) and (3) medication safety (twenty question) [medication preparation seven items, medication administration seven items, medication documentation six items]. It was utilized during different phases of assessment (pre-program, immediately after program).

**Scoring system:**

Each item was assigned score on three-point Likert scale ranged from (2-0), (2) done completely, (1) done incompletely and (0) not done. The scores were summed up and a nurse intern was considered had high skill level when score was more than (75%), moderate skill level from (75-60%) and low skill level less than (60%).

**Nurse Interns` Attitudes Questionnaire:** It was developed by the researchers based on related literature (Fentianah, 2012; Ibrahim, Cynthia and Elizer, 2014). It intended to assess attitude of nurse interns toward three main competencies. It was consisted of 17 items. It was utilized during different phases of assessment (pre-program, immediately after program).

**Scoring system:**

The responses of nurse interns were measured using five-point Likert scale ranging from (1-5), (1) disagree and (5) agree. The scores were summed up and nurse interns attitude were considered had a highly positive attitude more than (75%), positive attitude from (75-50%) and negative attitude less than (50%).

**Nurse Interns Satisfaction Questionnaire:** It was developed by the researchers based on related literature (AL-Mahmoud, Dorgham and Abd EL-megeed 2013; Bisholt, Ohlsson, Engström, Johansson and Gustafsson, 2014 ; El-Saman and Makhlof, 2017). It intended to assess nurse interns' satisfaction level. It was consisted of 15 items. It was utilized during different phases of assessment (pre-program, immediately after program).

**Scoring system:**

The responses of nurse interns were measured using three-point Likert scale ranging from (1-3), (1), unsatisfied (2) neutral and (3) satisfied. The nurse interns were considered satisfied when total scores was more than (60%) and unsatisfied when total scores was less than (60 %)

**Data collection procedure:**

**Administrative approval:**

An official approval was obtained from the Dean of Faculty of Nursing and the hospital director of Benha University Hospital and from all participants in the study through official letters that sent to the head of department explaining the aim of the study.

**Tool validity:**

Data collection tools were submitted to a panel of experts composed of five members from the Nursing Administration Department and Medical Surgical Department at Faculty of Nursing to review and test content validity, modifications were done based on their comments.

**Tool reliability:**

The reliability of study tools was done using the Cronbach's Alpha test. The calculated reliability were ( $r=0.91, 0.88, 0.92$  &  $0.86$ ) for Competencies Knowledge Questionnaire, Performance Observational Checklist, Nurse Interns` Attitude Questionnaire and Nurse Interns Satisfaction Questionnaire respectively.

**Pilot study:**

Before collecting data, the revised questionnaires were piloted with 10% from the subjects: (8) nurse interns from Benha University Hospital in September 2017 to test clarity and evaluate the effectiveness of the proposed data collection tools and assess the feasibility of the study and necessary modifications were done. In addition, estimating the time needed to fill questionnaires that approximately

ranged from 35- 50 minutes. Nurse interns included in the pilot study included in the study.

**Field work:**

The study was carried out for (8 months) from at the beginning of October, 2017 to the end of May, 2018 as the following:

1. The pre-intervention phase; that took about two months from the beginning of October, 2017 to the end of November, 2017. Teaching materials was prepared and the training strategy was developed based on the detected needs. As well, time schedule, teaching sessions, media included, and the handout were prepared.
2. The intervention phase; was carried out from the beginning of December, 2017 to end of January 2018. First grouped nurse interns into (8) groups (9-10 nurse interns in each group) according to their empty times. The preprogram tests were fulfilled by the nurse interns before beginning of the training program. The competencies' knowledge questionnaire took from 15-20minutes to be completed, and performance observational checklist took from 30- 35 minutes to be observed and completed by the researchers, and 10-15 minute for completing nurse interns' attitudes questionnaire and nurse interns' satisfaction questionnaire took from 10-15 minutes. This pre-study test was designed to allow the researchers collect a baseline assessment of nurse interns' knowledge and skills in order to compare it with pre- program and immediate post- program. The researchers collected data two days/week in the morning and afternoon shift. After the questionnaires were completed, the training program was implemented by the researchers. The time plan of the program implemented over the period from the mid of February 2018 to end of March 2018. The training program has taken 12 hours distributed as the following; 6 sessions, 2 hour/session, 3days/week, in the morning and afternoon shift. Each group perceived the program content using the same teaching strategies and handout. Each researcher implements the program with two groups in the day. Different methods of teaching were used such as lectures, group discussion, and brainstorming. Instructional media included handout prepared by the researchers and distributed to all participants in the first day.
3. The post-intervention phase (Evaluation Phase). In this phase, the effect of the training program was evaluated by using the previous study tools; it was carried out immediately after the program implementation. The time of the data collection for two months from the beginning of April 2018 to end of May 2018.

**Ethical consideration:**

At the interview with nurse interns to collect data they informed about the purpose and benefits of the study, and they were informed that their participation is voluntary and they have the right to refuse to participate in the study without giving any reason. In addition, confidentiality and anonymity of the subjects were assured by coding of all data

**Statistical Analysis:**

Data entry and analysis were done using statistical package for social science (SPSS) version 18. Data were presented

using: Descriptive statistics in the form (frequency, percentage, mean, the standard deviation, t. test). Test of significant was done. Significant level value was considered when  $p \leq 0.05$  and a highly significant level value was considered when  $p \leq 0.05$ .

**RESULTS**

**Table (1):** Presented the personal characteristics of studied nurse interns. This table showed that the total study sample was 75 nurse interns and two thirds of them (66.7%) were aged less than 23 years with Mean  $\pm$  SD (22.45 $\pm$ 1.06). And 78.7% & 85.3% of them were female and single. And the majority of them (81.3%, 92.0%) had general secondary school education and hadn't taken training courses on competencies respectively.

**Figure (1):** Presented the distribution of nurse interns according to their training unit in emergency units. Showed that the highest percent 26.6% of nurse interns were trained at medicine emergency unit and the lowest percent 16.0% of them were trained at accidents emergency unit.

**Table (2):** Presented Mean and standard deviation of competencies knowledge among nurse interns in pre and post program. The table showed that there was very highly statistically improvement in total competencies knowledge with Mean  $\pm$  SD (12.98 $\pm$ 3.17) pre program that improved to (24.13 $\pm$ 8.17) immediate post educational program.

**Figure (2):** Presented the distribution of nurse interns regarding their knowledge level in pre and post program. The result indicates that before the program the majority of the study nurse interns (90.7%) had unsatisfactory knowledge level, while after the program implementation, the most of the study nurse interns (81.3%) had satisfactory knowledge level.

**Table (3):** Presented Mean and standard deviation of competencies skills among nurse interns in pre and post program. The table showed that there was very highly statistically improvement in total competencies skills with Mean  $\pm$  SD (38.92 $\pm$ 7.90) pre program that improved to (81.69 $\pm$ 7.62) immediate post educational program.

**Figure (3):** Presented the distribution of nurse interns regarding their skills level in pre and post program. The result indicates that before the program the majority of the study nurse interns (80.0%) had low skills level, while after the program implementation, the most of the study nurse interns (73.3%) had high skills level.

**Table (4):** Presented Mean and standard deviation of attitude regarding competencies among nurse interns in pre and post program. The table showed that there was very highly statistically improvement in total attitude regarding competencies with Mean  $\pm$  SD (33.84 $\pm$ 4.69) pre program that improved to (62.91 $\pm$ 6.23) immediate post educational program.

**Figure (4):** Presented the satisfaction level of nurse interns` satisfaction in pre and post program. Showed that there was highly statistically significant improvement in nurse interns` satisfaction level. As 16.00% of them were satisfied before

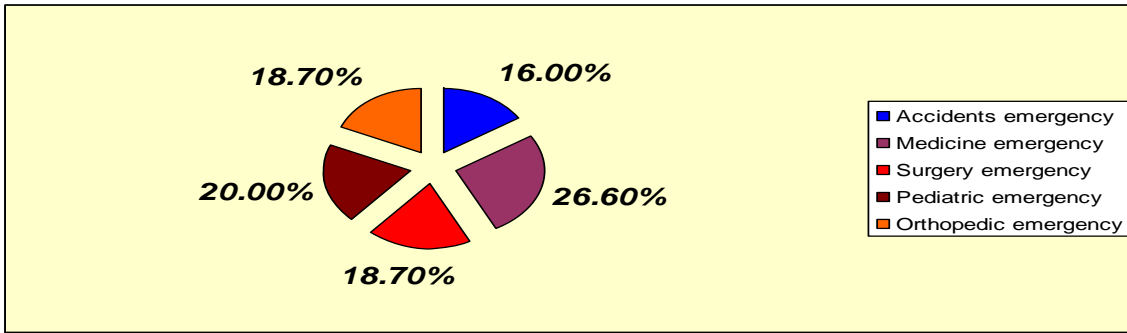
program implementation that improved to 66.70% immediate post educational program

**Table (5):** Presented correlation between nurse intern's knowledge, skills, and attitude regarding competencies and their satisfaction level. The table showed that there was

statistically significant correlation between total knowledge score Post program and their satisfaction level post educational program. There was no statistically significant correlation between total skills score post program and total attitude score post program with their satisfaction level post educational program.

**Table 1: Frequency distribution of nurse interns regarding their personal characteristics (n=75).**

Variables	Nurse interns (75)		
	No	%	
Age	< 23 years	50	66.7%
	>23 years	25	33.3%
	<b>Mean ± SD</b>	<b>(22.45±1.06)</b>	
Sex	Male	16	21.3%
	Female	59	78.7%
Pre University Educational	General secondary school	61	81.3%
	High Nursing institute	14	18.7%
Marital status	Single	64	85.3%
	Married	11	14.7%
Had taken Training Courses on competencies 3	Yes	6	8.0%
	No	69	92.0%

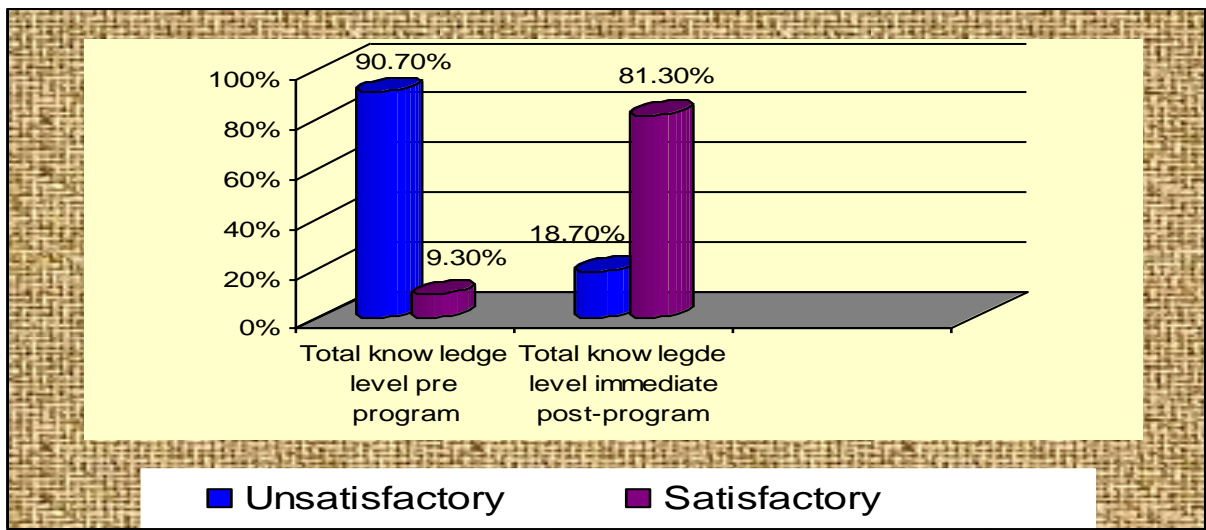


**Figure 1: Distribution of nurse interns according to their training unit (n= 75).**

**Table 2: Mean and standard deviation of competencies knowledge among nurse interns in pre and post program (n= 75).**

Competencies Knowledge	Number of items	Pre program Mean ± SD	Post program Mean ± SD	t-test	P-value
Emergency Response	10	3.84±2.09	7.57±1.41	15.84	0.000**
Infection Control	10	3.57±2.13	8.21±1.05	18.47	0.000**
Medication Safety	10	5.57±2.11	8.96±1.24	22.84	0.000**
<b>Total</b>	<b>30</b>	<b>12.98±3.17</b>	<b>24.13±8.17</b>	<b>35.39</b>	<b>0.000**</b>

Statistically significant. (P ≤ 0.05)



**Figure 2. Level of studied nurse interns knowledge regarding competencies thorough program (n=75).**

Table 3: Mean and standard deviation of core competencies skills among nurse interns in pre and post program (n= 75).

Competencies Skills	Number of items	Pre program Mean ± SD	Post program Mean ± SD	t-test	P value
Emergency Response	15	11.24±4.85	23.92±3.45	20.03	0.000**
Infection Control	15	9.76±1.90	25.88±3.18	44.14	0.000**
Medication Safety	20	17.92±2.37	31.89±3.57	29.64	0.000**
Total	50	38.92±7.90	81.69±7.62	42.63	0.000**

Statistically significant. (P ≤ 0.05)

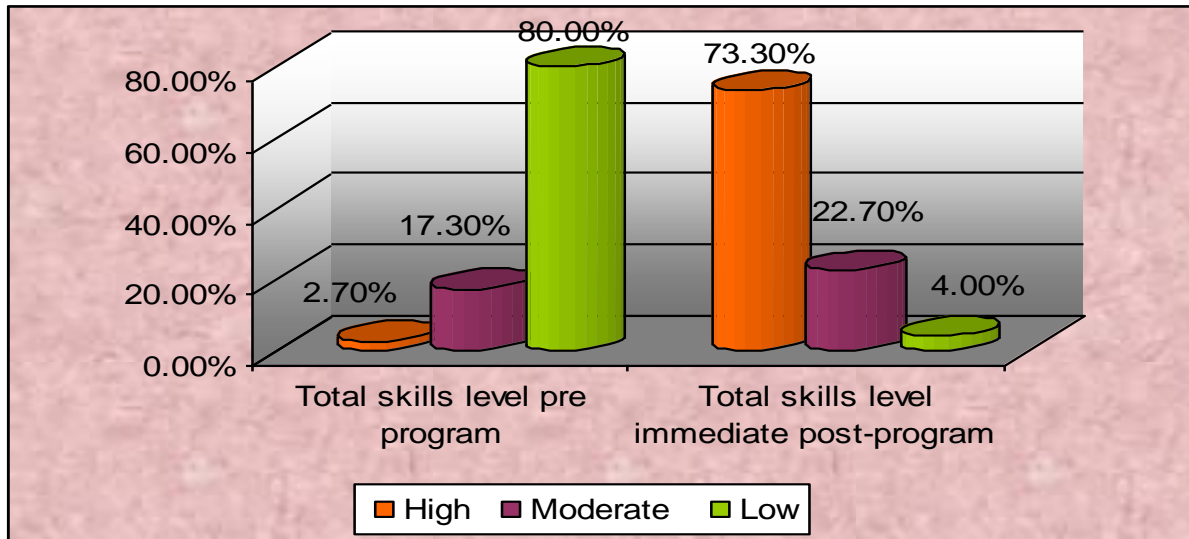


Figure 3. Level of studied nurse interns skills regarding competencies through program (n=75)

Table 4: Mean and standard deviation of attitude regarding competencies among nurse interns in pre and post program (n= 75).

Attitude regarding competencies	Number of items	Pre program Mean ± SD	Post program Mean ± SD	t-test	P value
Emergency Response	6	10.77±2.28	22.21±1.05	39.54	0.000**
Infection Control	7	14.08±2.75	26.14±1.66	32.13	0.000**
Medication Safety	4	9.09±1.63	14.66±1.15	24.45	0.000**
Total	17	33.84±4.69	62.91±6.23	53.51	0.000**

Statistically significant. (P ≤ 0.05)

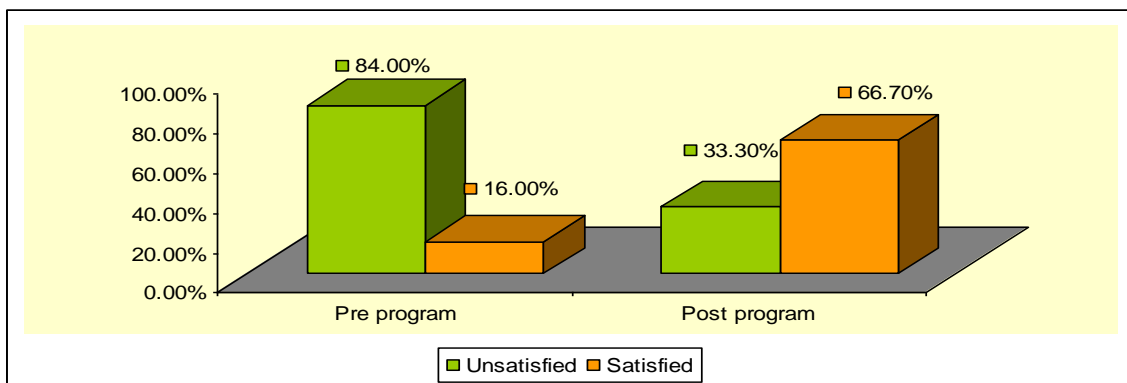


Figure 4: Satisfaction level of nurse interns in pre and post program (n= 75).

Table 5: Correlation between nurse interns knowledge, skills, and attitude regarding competencies and their satisfaction level (n= 75).

Variables	Total knowledge score Post program		Total skills score Post program		Total attitude score Post program	
	r	P	r	P	r	P
Total satisfaction level Post program	0.242	0.036*	0.119	0.311	0.037	0.754

\* Correlation is significant at the 0.05 level (2-tailed).

## DISCUSSION

The acquisition of professionalism is an acknowledged goal of nursing education and a recognized competency of the practicing nurse across the health care continuum. By incorporating the multi-dimensional concepts of professionalism into practice, nursing students and nurses have the opportunity for both personal and professional competency. Nurses who demonstrate the attributes of professionalism are known to have a positive impact on patient satisfaction, health outcomes and the multidisciplinary health care team (**Kudo et al., 2016**).

The present study was conducted to enhance nurse interns' competencies at emergency units and its effect on their satisfaction. The current study involved 75 nurse interns at Benha University Hospital, and two thirds of them (66.7 %) were aged less than 23 years. And 78.7 % and 85.3 % of them were female and single. In addition, the majority of them (81.3 %, 92.0 %) had general secondary school education and hadn't taken training courses in competencies respectively. Concerning the training unit, the highest percent (26.6 %) of them were training at accidents emergency unit. These findings were consistent with **El-Saman and Makhlof (2017)** who conducted study entitled "Nurse Interns' Satisfaction with Clinical Learning Environment in Intensive Care Unit" and reported that the majority of nurse interns were female and single.

Concerning nurse interns' total competencies knowledge regarding emergency response, infection control and medication administration, the result of present study revealed that there was very highly statistical improvement in total competencies knowledge at immediate post program compared to preprogram. This could be due to the content of the nursing curriculum regarding these competencies was not enough and wasn't adequately delivered to the students. Moreover, this improvement could be attributed to the ability of nurse interns to gain knowledge easily and they were interested in the research topics.

This result was in agreement **Al-Neami, Dimabayao and Caculitan (2014)** they conducted study entitled "Competencies of Nursing Interns at King Fahd Central Hospital". They reported that the findings were indicative of a low level of nursing competencies knowledge from the start which improved after the training program. Also, **Weiner, Irwin, Trangestein and Gordon (2016)** who conducted study entitled "Emergency preparedness curriculum in the United States nursing schools, survey results" stated that nursing students are not the only ones lacking in the mastery of emergency preparedness content. Their survey also revealed that there is a lack of emergency preparedness content in the curriculum.

In the same line, **Eldeeb and Bakeer (2016)** who are reported that there were statistical significant improvements in nurse interns' knowledge, skills and attitude in the post test in comparison to pre test. And similar to the improvements of knowledge reported by **Ahmed et al., (2013)**. Additionally, **Khanna, Cheyney and Engle (2018)** found that there was statistically significant improvement in

the knowledge and skills of health care providers and administrators after competency training program.

Specifically, these results were consistent with **Abo elfetooch (2017)**, who revealed that the most of studied staff nurses had unsatisfactory knowledge regarding medication preparation according to pre educational program assessment. This result improved to satisfactory knowledge immediately post educational program. Also, **Denise, Susan and Thomas (2017)** who conducted a study about "The Effects of an Educational Intervention on Emergency Nurses' Attitude, Knowledge, and Care Behaviors toward Older Adults" indicated that educational intervention was successful in improving emergency department nurses' knowledge.

In addition, this result matched with **Galal, Labib and Abouelhamd (2014)** they conducted a study entitled "Impact of an infection-control program on nurses' knowledge in pediatric intensive care units at Cairo University hospitals" and indicated that a significantly higher level of knowledge was found in the post intervention phase as compared with the pre intervention phase with regards to the types of nosocomial infections, the at-risk groups for acquiring infection and the measures applied to control nosocomial infections

Regarding nurse interns' total competencies skills related to emergency response, infection control and medication administration, the result of the present study revealed that there was very highly statistical improvement in total competencies skills at immediate post program compared to preprogram. This might be due to support given to them by the staff of the hospital and that of the training program given was effective. In addition, many of the nursing competencies are not developed well among the nursing students before they go to their internship year. This result matches with **El-Maghraby (2016)** who conducted study entitled "effect of orientation program on new graduate nurses at Mansoura new general hospital" and reported that there was significant improvement in new graduate nurses' performance level and in all competency skills post the program.

In the same line, **Al-Neami et al., (2014)** they reported that many of the nursing competencies including skills were manifested by the students to a higher level after their training. This was attested by the significant difference which resulted in many of the competency groups. Also, this finding was supported by **Almazwaghi (2013)** who stated that nursing students may acquire satisfactory preparation during their internship year through continuous training evaluation, consistent guidance, extended time period and orientation.

These results goes line with **Wheelahan (2014)** who mentioned that a nurse intern may come from a university with a skill taught on "principle" which, if performed differently to the "procedure manual" of the specific clinical environment, could cause the nurse intern to be failed. Also, **Park and Jones (2010)** who reported that the orientation programs were successful in improving newly graduated nurses' confidence in caring for patient and in enhancing

their competencies such as knowledge and skills in the clinical environment.

**The results matches with Abo elfetoooh (2017)**, who revealed that there was high statistical significant improvement in staff nurses' practice toward prevention of medication errors during preparation through different three phases of the educational program. Additionally, **Abd-Elhamid et al., (2016)** they conducted a study entitled "Impact of training education program on improving of nurses performance regarding infection control in endoscopy unit" found that there was improvement in total level of nurses' practice regarding infection control with highly statistically significant difference between pre- post and pre-follow up program phase as regarding to infection control.

Furthermore, the result agreed with **Hodge (2013)** who conducted a study entitled " A review of the quality assurance processes for The Australasian Triage Scale (ATS) and Implications For Future Practice" and concluded that new graduate nurses should be eligible to undertake a triage education program. It was recommended as baseline clinical expertise one –two years full time emergency department nursing experience.

In relation to nurse interns' total competencies attitude regarding emergency response, infection control and medication administration, the result of the present study revealed that there was very highly statistical improvement in total competencies attitude at immediate post program compared to preprogram.

In the same respect, **Cherry (2018)** who said that attitudes form directly as a result of experience. They may emerge due to direct personal experience or they may result from observation". This result was supported by **Brasait (2016)** who reported that attitudes have been found to be more positive after training, the same study showed that after a day training course on patient safety, senior doctors' safety attitudes had significantly improved post course and were sustained based on their own evaluations.

This finding was consistent with **Den Uil-Westerlaken (2013)** who conducted a study about " Competencies in nursing students for organized forms of clinical moral deliberation and decision-making (MDD)" and found that attitudes towards MDD score significantly higher after completing nursing training. While this result was in disagreement with **Al-Neami et al.(2014)**, they reported that competencies in attitudes did not mostly have significant difference from the start and during their training. This could be an influence of their length of time or period of exposure to certain condition relative to their training.

In the same line, **Galal et al., (2014)** reported that a statistically significant higher total attitude regarding infection-control in pediatric intensive care units was revealed in the post intervention phase as compared with the pre intervention one. In the same line, **Denise et al., (2017)** they demonstrated that educational intervention was successful in improving emergency department nurses' attitude.

As regard nurse interns' satisfaction level, the result of the present study revealed that there was highly statistical improvement in nurse interns' satisfaction level at immediate post program compared to preprogram. This might be due to the training program was effective and provided nurse interns an opportunity to consolidate clinical nursing knowledge in new areas of practice and to provide an opportunity to demonstrate understanding and competence in technical skills and procedures related to the specialty in which they are practicing.

In the same respect, **AL-Mahmoud, Dorgham and Abd EL-megeed (2013)** who conducted a study entitled "Relationship between Nurse Interns' Satisfaction Regarding Internship Program and Clinical Competence" and reported that the majority of the studied respondents were highly satisfied regarding overall internship training program. These findings were also supported by **Ellerton and Gregor (2013)** who conduct survey to obtain information regarding the satisfaction levels of new nurses who participated in a nurse internship; they revealed that nurse internship program increased satisfaction in graduate nurses. Satisfaction included either satisfaction in the internship program itself or satisfaction in their job.

Concerning correlation between nurse interns' knowledge, skills and attitude regarding competencies and their satisfaction level, the result of present study revealed that there was a statistically significant correlation between nurse interns' total knowledge score and their satisfaction level . While there was no statistically significant correlation between nurse interns' total skill score and total attitude score post program with their satisfaction level post educational program.

This finding was in agreement with **AL-Mahmoud, Dorgham and Abd EL-megeed (2013)** who indicated that studied respondents were highly satisfied recorded that internship program have increased their level of knowledge. In addition, they highlighted that no statistically significant correlations are documented between total clinical competence dimensions, as well as each dimension with studied respondents' satisfaction.

## CONCLUSIONS

The study conclusion that, the implementation of competencies program was significant succeeded in enhancing total knowledge, skills and attitude of nurse intern that significantly improves their satisfaction level.

## RECOMMENDATION

The findings of the study suggest that:

1. Conducting continuous in-service training and education programs which contribute much to the development of competencies of nurses and nurse interns at the hospital.
2. Implementing a triage system in emergency units at governmental and non-governmental hospitals.
3. Nursing curricula should be well planned by equally balancing theoretical and practical studies for improving nursing students' competencies.



4. College educators should emphasize the importance of skills' lab and simulation to enhance students' psychomotor skills.
5. The content of infection control and patient safety promotion should be made a part of the nursing curriculum.
6. Further research to study the relationship between internship program and new graduates' retention.

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