

## Effect of Self-efficacy Educational Program on Head Nurse's Performance.

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### Abstract

**Background:** Self-efficacy is directly changeable, can predicts improvement in head nurse's performance. **Aim** Determine the effect of self-efficacy educational program on head nurse's performance. **Study design:** A quasi-experimental design was used. **Setting:** The study was conducted at Assiut University Main Hospital. **Subject** Consisted of 44 head nurses. **Tools:** three tools were used to collect data: **First tool;** Self-administered questionnaire sheet including:-**a):** Personal data sheet; gathers data about: gender, age, years of experience, educational qualifications, and marital status, and **b):** Self – efficacy assessment scale. **Second tool;** Performance checklist, **and third tool;** Program effectiveness evaluation sheet including **a):** Head nurse's knowledge test. **b):** Head nurse's opinionnier sheet. **Results:** The study revealed that head nurses had unsatisfactory knowledge level about self-efficacy in preprogram assessment but satisfactory in immediately post and follow up phase of the program implementation (90.9%, and 81.8%) respectively. The highest percentages of head nurses have low self-efficacy in preprogram assessment(81.8%), but high self-efficacy in immediate post and follow up phase(86.3%, 81.8%) respectively. **Conclusion:** There was positive correlation between self-efficacy and total performance categories with statistical significant relation. **Recommendations:** Further training for physicians, nurses and nursing administrators and update faculty curriculum to include self-efficacy in the undergraduate courses.

**Keywords:** *Head Nurses, Self Efficacy & Performance.*

### Introduction

Skills behaviors and attitudes that required making head nurse successful in dealing with health care team are different from those required for staff nurses. Head nurses should have special skills to solve complex problems that may faced her/him and health care team daily (Scott, 2018). No Head nurse behavior has been discussed with limited way in literature more than performance so, treating the performance as the behaviors of organizational members that help the organization to meet its objectives become required. Head nurse's performance means that to what extent the head nurses meets or exceeded the expectations of the organization as they execute the needed duties of their jobs according to standards of nursing practice (Abdul Fattah, 2014).

The performance of head nurse is very important because they have a strong effect on nurse's performance. They interact with most health care team on everyday basis. So, head nurses should act as a role model, if head nurses role become unsuccessful to stimulate their nursing staff, it may affect dramatically nurses work performance, which in return leads to nurses desire to leave the unit or working with less quality, low productivity, dissatisfaction and other passive attitude toward work

and organization like decrease commitment level (Luu, 2019).

Head nurse's performance can be viewed as the effectiveness of the head nurse in carrying out their roles and responsibilities. Three dimensions to assess job performance of head nurses, first general characteristics including; attendance and punctuality, appearance, and work habits. Second, soft skills including; communication with staff, communication with patients, innovation, documentation, and keeping up to date technically. And third, nursing care including; nursing care plan activities, preventive measures and patient safety (Youssef, 2017). So, Bandura, (2009) explained in details self-efficacy as a component of social cognitive theory.

Self-efficacy (SE) refers to the individual ability to execute a task and thus to obtain desired projected outcome, or is the influence of individual to make positive response to negative events. Self-efficacy also means people's abilities to produce desirable levels of performance that had influence over events that affect their professional lives. Finally SE decide how people, think, feel, behave and motivate themselves in normal and stressful situations (Akhtar, et al., 2012) Conner, (2015) defined SE as the confidence level of people in finishing work behavior based on the skills they have mastered. Azam, (2018) added that SE is a belief to organize and implement actions to achieve desired goals.

People's beliefs about their efficacy can be developed by four main strategies; 1) Mastery experiences; success in build strong and healthy belief in one's personal efficacy. If failures happen before a sense of efficacy is firmly established so, failures interfere with it (**Lent & Hackett, 2015**) 2 Vicarious experiences; observing other succeed at a task can strengthen beliefs in one's own abilities. In the same way, observing others' fail despite high effort lowers observers' judgments of their own efficacy and interferes with their efforts (**Bandura, 2009**). 3) Modeling; influences do more than provide a social standard against which to judge one's own abilities. People look for skilled models who possess the abilities to which they hope (**Bandura, 2014**), and 4) Emotional state; a positive mood can boost one's beliefs in self-efficacy, while anxiety can undermine it. A certain level of emotional stimulation can create an energizing feeling that can contribute to strong performances (**Pajares, 2016**).

Self-efficacy and its strategies can be learned so in service training program is necessary. It is a planned learning experience provided by the trainer for head nurses. Successful in-service training planning is the result of careful & detail planning. Planning is essential if learning needs of head nurses are to be met (**Salama & Mohamed, 2017**).

### Significance of the study

**Zaki, (2017)** addressed effects of different evaluative feedback on students' self-efficacy in learning. This was the motive to assess head nurses learning needs toward developing their self-efficacy at Assiut University Main Hospital, the need assessment result was depicted that 81.8% of head nurses had low self-efficacy so in service education program become the necessity to be conducted at period of time so the researchers insist to complete this study after need assessment phase.

### The present study aimed to

- Determine the effect of self-efficacy educational program on head nurse's performance. Through
  - Assessing head nurse's knowledge regarding self-efficacy.
  - Measuring head nurse's performance pre, post and follow up program implementation.
  - Planning and implementing self-efficacy educational program for head nurses.
  - Evaluating the designed program.

### Research hypothesis

- In-service training program will improve head nurse's knowledge regarding self-efficacy.
- Head nurse's performance will improve after implementation of the program.

### Subject & Methods

**The methodology pursued in the conduction of the study is portrayed according to the following designs**

- 1-Technical design.
- 2-Administrative design.
- 3-Operational design.
- 4-Statistical design.

**1. Technical design:** This design involves the research design, setting, subject, and data collection tools.

**Study design:** A quasi-experimental design was used in the present study.

**Study setting:** The present study was conducted at Assiut University Main Hospital. The implementation of the program was carried out at the continuing training and education center affiliated to Assiut University Hospitals (Main, Children, Women's Health, Urology & Nephrology, Alrajhy Liver, Neurology & Psychiatry, and Orman Heart Hospitals).

**The subject of the study:** The present study included a convenient number of head nurses working at Assiut University Main Hospital (no. =44) as following; General Medical Departments (3 units), General Surgical Departments (6 units), Special Medical Departments (2 units), Special Surgical Departments (4 units), Intensive Care Unit (3 units), Operating rooms (2 units), and Emergency (2 units).

**Data collection tools:** Three tools were used in the present study.

**Tool I:** Self-administered questionnaire sheet which consists of two parts: - **Part (1):** A personal data sheet that gathered data about: gender, age, years of experience, educational qualifications, and marital status.

**Part (2):** Self – efficacy assessment scale; which was developed by **El-Adel, (2001)** which included 50 statements. Head nurses were asked to respond to a 4 point rating scale which ranges from (1) for rarely, (2) for sometimes, (3) for often and (4) for always. The total score of the scale ranged from 50 to 200 and was divided into three levels. If the head nurse obtains 50-99 it means she/he have low level of self-efficacy, from 100-149 it means she/he had a moderate level of self-efficacy and from 150-200 it means she/he had a high level of self-efficacy.

**Tool (II):** Performance checklist, which was developed by **Youssif, (2017)** and modified by the researchers based on the current literature (**Ali, (2016), Abdul Fattah, (2014), Kelly & Tazbir, (2013), Luu, (2012), Mohamed, et al., (2007)**). It consisted of three categories distributed as follows; **1) General characteristics** which consists of three dimensions (15 items); attendance and punctuality (3 items), appearance (4 items), and work habits (8

items). **2) Soft skills** that consists of five dimensions (27 items); communication with staff (6 items), communication with patients (7 items), innovation (2 items), documentation (7 items), and keeping up to date technically (5 items), and **3) Nursing care** which consists of two dimensions (15 items); Nursing care plan activities (9 items), and preventive measures and patient safety (6 items). Each item checked by the researchers and its scoring (1) for no and (2) for yes. If the head nurse obtained  $\geq 70\%$  it means that head nurse had adequate of performance, if the head nurse obtained  $< 70\%$  it means that his/her performance is inadequate (Oladokun, & Adebajo, 2008).

**Tool (III):** Program evaluation sheet which consisted of two parts:

**Part (1): Head nurse's knowledge test (pre, immediately post and follow up test):** It was developed by the researchers to assess head nurse's knowledge regarding self-efficacy. It covers 16 questions. The test was administered to participants before the implementation of the program, immediately after implementation of the program, and follow up after three months.

The head nurse's responses were measured and correct response given (2) marks, correct incomplete response given (1) mark and incorrect response given (zero) marks. The sum of correct answers was totaled and if it  $\geq 60\%$  this means satisfactory knowledge level regarding self-efficacy but if it  $< 60\%$  this means that participants had unsatisfactory knowledge level regarding self-efficacy.

**Part (2): Head nurse's opinion sheet:** It was developed by the researchers to evaluate the program from the head nurse's point of view. It covers (17) questions classified into three items as follows;

- 1- The program content (10 questions).
- 2- The appropriateness of the educational programs (6 questions).

The head nurse's responses were measured on 5 points Likert scale ranged from (5) excellent, (4) very good, (3) good, (2) pass and (1) poor.

- 3- One open-end question which described the suggestions of head nurses for improvement of the program implementation.

**Administrative design:** Official approval from the Dean of Nursing Faculty Assiut University was send to (medical and nursing) Directors of Assiut University Main Hospital after that was distributed to all departmental Heads in order to collect the necessary data for the present study.

**Operational design:** Include actual steps of implementation of the study as; preparatory phase, validity, pilot study, and field work. **Preparatory phase:** After reviewing the available literature concerning the topic of the study, which took about three months from the beginning of October to the

end of December 2017 to end the proposal of the study. Arabic translation of the study tools was done.

**Validity:** Faced validity was done to assure accurate comprehension of the study tool, which was done through a jury (expert opinions) composed of 3 professors and 2 assistant professors from the Nursing Administration and Community Health Nursing Departments, Faculty of Nursing, Assiut University. Also, content validity was checked and analyzed using confirmatory factor analysis test to assure (importance, clearness, and accountability of each items of the study tool) and its result was  $\geq 1.8$  for all items of the study tool (Self – efficacy assessment scale), so all items in the study tool were confirmed.

**Pilot study:** The pilot study was done to estimate the time needed to fill the questionnaire form (each tool took from 20-30 minutes) also to detect any problems that may be encountered during the data collection phase. It was applied to five Head nurses (10%) from Assiut University Main Hospital. Data collected from the pilot study were analyzed using Cronbach's Alpha Coefficient test. The result was  $\geq 0.86$  for each item of the study tool (Self – efficacy assessment scale). The head nurses included in the pilot study were excluded from the present study. Necessary modifications were done after the pilot study. This period took about two weeks.

#### **Field work**

**Assessing needs:** The program was planned and designed based on the need assessment which were performed prior one week from program planning and actually implementation of the program. The data were collected by the researchers through distributing questionnaire form for head nurses. Then the researchers had explained the purpose of the study. The time taking with each participant was from 20-30 minutes. The data obtained from need assessment used as a guide in preparing the program content. The researchers observed the head nurses performance three times consecutive. This phase took about three months from January to March 2018.

#### **Ethical considerations**

Research proposal approved from Ethical Committee at the Faculty of Nursing, Assiut University. The study was followed common ethical principles in clinical research, then oral agreements were taken from all participants to participate in the present study, study participants have the right to refuse/ participate/ withdraw from the study without any rational at any time, confidentiality and anonymity were assured, and study participants privacy was considered during collection of data, all obtained data were used only for research purpose.

**Planning and developing in-service education program:** This phase include formulating program

objectives, the program was implemented by the researchers on 44 head nurses within two weeks period, divided into two groups; every group was 22 head nurses. The total time of the program was 18 hours distributed into 9 sessions for each group, 3 sessions every day (start from 8am the attendance time to 2pm the leave time). Then the researchers evaluate the program used questions to evaluate the following: 1) **Outcome of the program** through the use of a structured questionnaire which used to evaluate cognitive skills of program content through pre, immediately post and follow up tests after three months later. The test was completed in about half an hour. Self – efficacy assessment scale which used to evaluate the improvement of self-efficacy through pre, post and follow up tests after three months. Performance appraisal checklist which used to evaluate effect of self-efficacy on improving head nurse's performance through pre, immediately post

and follow up tests after three months later. 2) **Effectiveness of the program** through used a structured questionnaire which asks the participants about the program content effectiveness and appropriateness.

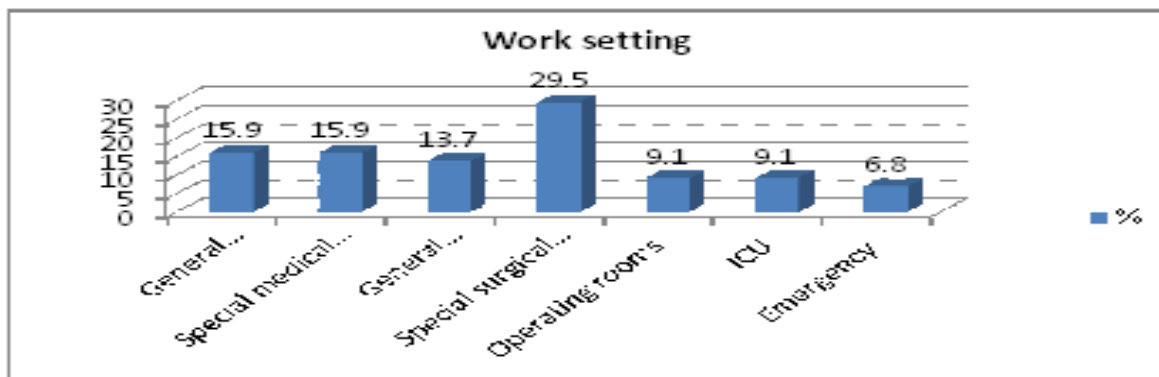
**Statistical design**

Collected data were verified before computerized data entry and analysis by using statistical software package for social sciences (SPSS) version 20 program. Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables, means and standard deviations for quantitative variables. Qualitative variables were compared using the chi-square test, paired t-test, Pearson correlation matrix and (ANOVA test) were used, and statistical significance was considered at P-value ≤ 0.05.

**Results**

**Table (1): Head Nurses Personal Data at Assiut University Main Hospital (no. = 44).**

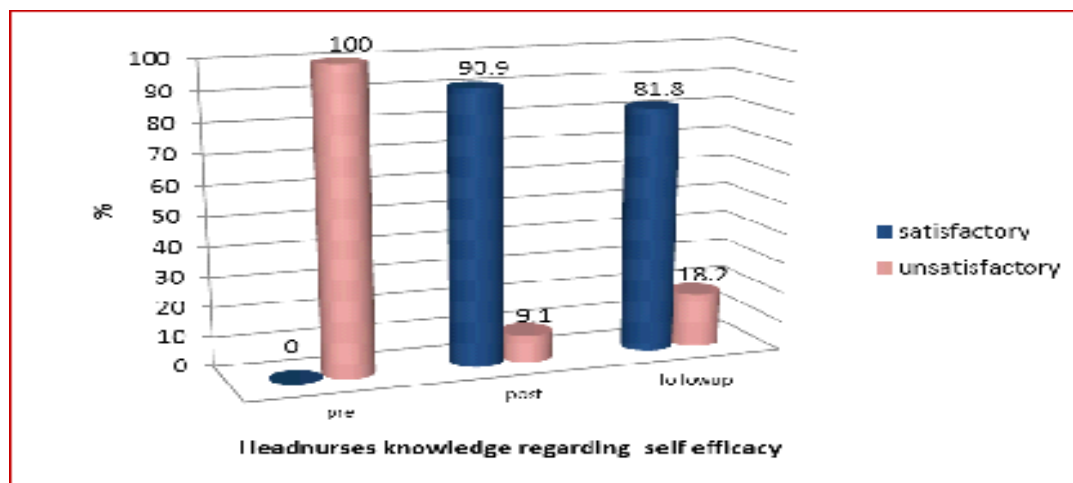
Personal Data		No.	%
Age: (years)	25-< 35	7	15.9
	35 - < 45	29	<b>65.9</b>
	45- 55↑	8	18.2
	Range: 25-52 years.	Mean ± SD (38.84 ± 5.95)	
Gender	Male.	4	9.1
	Female.	40	<b>90.9</b>
Educational qualifications levels:	Secondary technical nursing school diploma.	5	11.4
	Bachelor degree in nursing sciences.	35	<b>79.5</b>
	Master degree in nursing.	4	9.1
Marital status	Single.	1	2.3
	Married.	39	<b>88.6</b>
	Divorced.	1	2.3
	Widow.	3	6.8
Years of experience	<15 years	13	29.5
	≥ 15 years	31	<b>70.5</b>
	Range: 2-35 years.	Mean ± SD(17.2±6.26)	



**Figure (1): Head Nurses in Work Setting at Assiut University Main Hospital (no. = 44).**

Table (2): Head Nurse's Self-efficacy levels at Assiut University Main Hospital (no. = 44).

Levels of self-efficacy	Pre		Post		Follow up	
	No	%	No	%	No	%
Low self-efficacy	36	<b>81.8</b>	1	2.3	4	9.1
Moderate self-efficacy	6	13.7	5	11.4	4	9.1
High self-efficacy	2	4.5	38	<b>86.3</b>	36	<b>81.8</b>



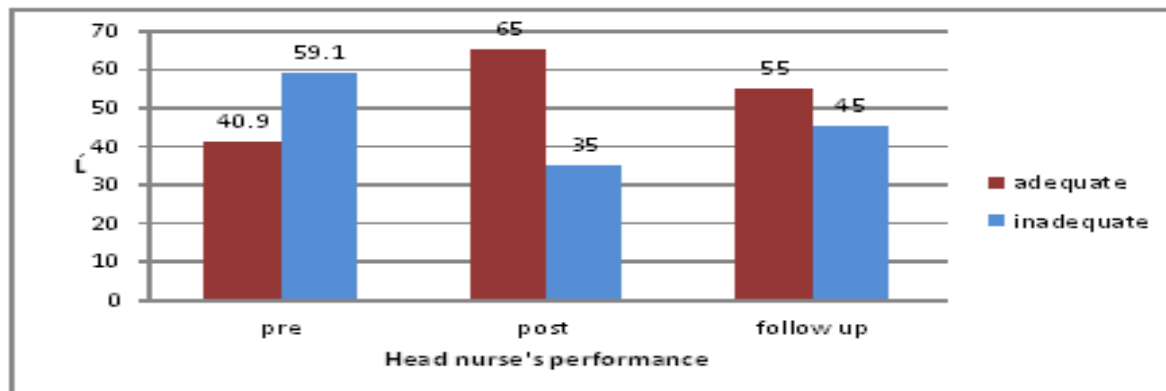
(≥ 60% satisfactory, < 60% unsatisfactory)

Figure (2): Head Nurse's knowledge regarding Self-efficacy at Assiut University Main Hospital (no. = 44).

Table (3): Mean scores of Head nurse's Performance at Assiut University Main Hospital (no. = 44).

Performance categories		Pre	Post	Follow up
		Mean ± SD	Mean ± SD	Mean ± SD
<b>General Characteristics</b>	Attendance and Punctuality	5.39± 1.15	<b>5.86± 0.41</b>	5.61± 0.69
	Appearance	7.25± 1.42	<b>7.75± 0.69</b>	7.50± 1.25
	Work Habits	13.98± 2.68	<b>14.70± 1.68</b>	14.43± 2.20
	<b>Total</b>	26.61± 4.93	<b>28.31± 2.31</b>	27.54± 3.97
<b>Soft skills</b>	Communication with staff	6.27± 1.45	<b>11.57±1.11</b>	9.98±2.82
	Communication with patients	7.84± 1.27	<b>13.36±1.36</b>	11.68±3.21
	Innovation	1.1±0.44	<b>3.68±0.71</b>	3.27±0.97
	Documentation	6.89±1.47	<b>12.95±1.79</b>	11.84±3.21
	Up to date technically	6.61±1.49	<b>9.0±1.84</b>	8.34±2.33
	<b>Total</b>	28.7± 3.1	<b>50.61± 6.29</b>	45.11± 9.1
<b>Nursing care</b>	Nursing care plan activities	12.55 ± 3.08	<b>15.27 ± 2.1</b>	14.93 ± 2.47
	Preventive and patient safety	10.07 ± 1.78	<b>11.25 ± 1.31</b>	10.86 ± 1.84
	<b>Total</b>	22.61 ± 4.41	<b>26.52 ± 3.24</b>	25.79 ± 4.18





(≥ 70% adequate, < 70% inadequate)

Figure (3): Head Nurse's Performance at Assiut University Main Hospital (no. = 44).

Table (4): Comparison between Head Nurse's performance in pre & post and pre & follow up at Assiut University Main Hospital (no. = 44).

Performance Categories	Pre	Post	P.value1	Pre	Follow up	P.value2
	Mean ± SD	Mean ± SD		Mean ± SD	Mean ± SD	
1. General characteristics	26.6± 4.9	28.3± 2.3	<b>0.000**</b>	26.6± 4.9	27.5± 3.9	<b>0.000**</b>
2. Soft skills	<b>28.7± 3.1</b>	<b>50.6± 6.3</b>	<b>0.000**</b>	<b>28.7± 3.1</b>	<b>45.1± 9.1</b>	<b>0.000**</b>
3. Nursing care	22.6± 4.4	26.5± 3.2	<b>0.000**</b>	22.6± 4.4	25.8± 4.2	<b>0.000**</b>
Total	90.9± 11.5	105.4± 11.4	<b>0.000**</b>	90.9± 11.5	98.4± 16.1	<b>0.000**</b>

Paired T test (\*) p-value ≤ 0.05. (\*\*) p-value ≤ 0.001

P1: means the relation between pre and posttest.

P2: means the relation between pre and follow up.

Table (5): Correlation Matrix between Head Nurse's Self-efficacy and performance at Assiut University Main Hospital (no. = 44).

Performance Categories			Self-efficacy (pre)	Self-efficacy (post)	Self-efficacy (follow up)
<b>Pre</b>	General characteristics	r	0.024	0.032	0.007
		p. value	0.87	0.83	0.96
	Soft skills	r	0.24	0.25	0.23
		p. value	0.17	0.11	0.12
	Nursing care	r	0.18	0.19	0.18
		p. value	0.32	0.31	0.34
Total performance categories	r	<b>0.70</b>	<b>0.75</b>	<b>0.73</b>	
	p. value	<b>0.05*</b>	<b>0.05*</b>	<b>0.05*</b>	
<b>Post</b>	General characteristics	r	0.21	0.23	0.22
		p. value	0.11	0.12	0.13
	Soft skills	r	<b>0.65</b>	<b>0.59</b>	<b>0.61</b>
		p. value	<b>0.000**</b>	<b>0.000**</b>	<b>0.000**</b>
	Nursing care	r	0.19	0.24	0.20
		p. value	0.32	0.31	0.34
Total performance categories	r	<b>0.76</b>	<b>0.80</b>	<b>0.77</b>	
	p. value	<b>0.05*</b>	<b>0.05*</b>	<b>0.05*</b>	
<b>Follow up</b>	General characteristics	r	0.20	0.24	0.21
		p. value	0.16	0.10	0.17
	Soft skills	r	<b>0.45</b>	<b>0.48</b>	<b>0.46</b>
		p. value	<b>0.000**</b>	<b>0.000**</b>	<b>0.000**</b>

Performance Categories			Self-efficacy (pre)	Self-efficacy (post)	Self-efficacy (follow up)
Nursing care	r		0.18	0.20	0.19
	p. value		0.34	0.28	0.30
Total performance categories	r		<b>0.75</b>	<b>0.78</b>	<b>0.76</b>
	p. value		<b>0.05*</b>	<b>0.05*</b>	<b>0.05*</b>

\* Statistically significant ( $p < 0.005$ )

\*\* statistically significant ( $p < 0.001$ )

**Table (6):** Head Nurse's Opinions Regarding Educational Program Content at Assiut University Main Hospital (no. = 44).

Program Contents	Opinion									
	Poor		Pass		Good		Very good		Excellent	
	No	%	No	%	No	%	No	%	No	%
1. Objectives were realistic.	0	0.0	0	0.0	0	0.0	9	20.5	35	<b>79.5</b>
2. Objectives were measurable.	0	0.0	1	2.3	0	0.0	15	34.1	28	<b>63.6</b>
3. Balance between theoretical and practical part.	0	0.0	0	0.0	6	13.6	9	20.5	29	<b>65.9</b>
4. Topics & time appropriate.	0	0.0	0	0.0	1	2.3	6	13.6	37	<b>84.1</b>
5. All objectives were covered.	0	0.0	0	0.0	0	0.0	10	22.7	34	<b>77.3</b>
6. Match trainee levels.	0	0.0	0	0.0	1	2.3	11	25	32	<b>72.7</b>
7. Up to date information.	0	0.0	0	0.0	1	2.3	6	13.6	37	<b>84.1</b>
8. Compatible with educational activities.	0	0.0	0	0.0	0	0.0	8	18.2	36	<b>81.8</b>
9. Clear.	0	0.0	2	4.5	2	4.5	7	15.9	33	<b>75.0</b>
10. Attractive.	0	0.0	2	4.5	3	6.8	8	18.2	31	<b>70.5</b>

**Table (7):** Head Nurse's Opinions Regarding Educational Program Appropriateness at Assiut University Main Hospital (no. = 44).

Program Appropriateness	Opinion									
	Poor		Pass		Good		Very good		Excellent	
	No.	%	No.	%	No	%	No.	%	No.	%
1. Date of implementation.	0	0.0	0	0.0	0	0.0	7	15.9	37	<b>84.1</b>
2. Time of each session.	0	0.0	0	0.0	0	0.0	10	22.7	34	<b>77.3</b>
3. Duration.	0	0.0	1	2.3	1	2.3	9	20.5	33	<b>75.0</b>
4. Training hall preparation.	2	4.5	0	0.0	4	9.1	10	22.7	28	<b>63.6</b>
5. Training hall organization.	0	0.0	0	0.0	2	4.5	12	27.3	30	<b>68.2</b>
6. Supportive services (break, audiovisual aids).	0	0.0	0	0.0	1	2.3	4	9.1	39	<b>88.6</b>

**Table (1):** Shows that the majority of head nurses are females, married, having Bachelor Degree in Nursing Sciences, having experience 15 years and more and nearly two third of them aged 35 years to less than 45 years old (90.9%, 88.6%, 79.5%, 70.5%, and 65.9%) respectively.

**Figure (1):** Shows that the highest percentage of head nurses works in special surgical units (29.5%). Meanwhile, the lowest percentage works in emergency departments (6.8%).

**Table (2):** Shows that the highest percentages of head nurses have low self-efficacy in preprogram implementation phase (81.8%), but high self-efficacy

in immediate post program implantation (86.3%), and follow up phase (81.8%).

**Figure (2):** Reveals that all head nurses had unsatisfactory knowledge level regarding self-efficacy in preprogram assessment (100%) and satisfactory knowledge level regarding self-efficacy in immediately post and follow up phase of the program implementation (90.9% and 81.8%) respectively.

**Table (3):** Shows that as regard to head nurse's performance, the highest mean score of head nurses performance were present in immediate post program implementation, slightly decline in follow up and the

lowest mean score present in the preprogram implementation.

**Figure (3):** Reveals that head nurse's performance improved in immediate post (65%) and slightly decreased in follow up phase (55%) but still better than preprogram implementation which was (40.9%).

**Table (4):** Shows that there are statistical significant differences between all categories of head nurse's performance in pre & post, and pre& follow up phase, and head nurses achieve highest mean score in soft skills.

**Table (5):** Displays that there are positive correlation between self-efficacy and soft skills in (post & follow up) phases, also, there are positive correlation between self-efficacy and total performance in (pre, post & follow up) phases ( $p=0.000^{**}$ ,  $p\leq 0.05^{*}$ ) respectively with statistical significant relation.

**Table (6):** Depicts that the highest percentage of head nurses opinions regarding self-efficacy educational program contents were excellent regarding all items.

**Table (7):** Depicts that the highest percentage of head nurses opinions regarding self-efficacy educational program appropriateness were excellent regarding all items.

## Discussion

Today's most organizations focused on recruiting people after attracting and screening them and determine how productive they were. Since a high-level of self-efficacy the person had, the higher productivity level would be achieved, and better workplace interactions will be present. It is only reasonable for organizations to favor and promote self-efficacy among workers, and there are some ways to do so like as; training and development, systematic self-management, ensuring appropriate job demands were present, and healthy surrounding conditions (Kanter, 2019).

In nursing, self-efficacy is quite critical for skill performance. Thus the present study was conducted with the aim to determine the effect of self-efficacy educational program on head nurse's performance.

The present study findings depicted that the majority of head nurses are females, married, having Bachelor Degree in Nursing Sciences, having experience 15years and more and nearly two third of them aged 35years to less than 45 years old. The highest percentage of head nurses works in special surgical units. Meanwhile, the lowest percentage works in emergency departments. This might be due to the faculty of nursing for a long time all of nursing graduate students were female and males were recently included and because of overload work in emergency departments, head nurses prefer to work in general departments. These results goes in the same line with the study done by Nassar, (2011) who

found that the majority of the studied subjects were females had 35 to less than 45 years old, had more than 15years of experience, and had a bachelor degree in nursing science.

The current study findings revealed that the highest percentages of head nurses have low self-efficacy in preprogram implementation phase, but high self-efficacy in immediate post program implementation, and follow up phase of the program implementation. This might be because self-efficacy was a vague terms for head nurses, they don't studied it before so when assessing their self-efficacy level preprogram implementation it was low. But immediately after program implementation head nurses self-efficacy improved not only because regular attendance of head nurses through the three days but also the highly interactive learning situation which were present during the training program using new and interactive learning strategies, aids (videotapes, power point, graphs, figures) and methods (small group discussion, role-plays, fish bowl, brain storming, peer evaluation, puzzle) which help in keeping trainee concentration, interest, and affect positively their knowledge acquisition later on.

This result consistent with study done by Haccoun & Saks, (2016) as they suggested that "training increases self-efficacy and self-efficacy mediates the effects of training on training outcomes". And this result goes in the same line with Gad Erab, (2017) who study nurses' students in Amaire hospital, found that the majority of students have low self-efficacy preprogram implementation and all of experimental group had high self-efficacy immediate post program implementation.

These findings were inconsistent with the study done by El Mosdy, (2003) who found that employees and administrators in Egazal Company have high self-efficacy preprogram implementation. And these findings were inconsistent with studies done by Nabourch, (2015) & Asefzadeh, et al., (2016) as they found that head nurses had average levels of self-efficacy after training.

The current study findings revealed that all head nurses had unsatisfactory knowledge level about self-efficacy in preprogram assessment, and satisfactory knowledge level about self-efficacy in immediately post and follow up phase of the program implementation, these findings agreed with the study done by Harawy, (2017) who illustrated that there was a positive impact of self-efficacy educational program on improving students' knowledge level. Also, Fan, et al., (2018) demonstrated that knowledge level improved after nurse's self-efficacy education program finished.

The current study findings revealed that regarding to all performance categories, the highest mean scores



were present in immediate post program implementation, slightly decline in follow up phase and the lowest mean score present in preprogram implementation. Head nurse's performance improved in immediate post and slightly decreased in follow up phase but still better than preprogram implementation, this results goes in the same line with study done by **Abo Gad & El-Demerdash, (2017)** who said that the effectiveness of training program for nursing managers enhance their knowledge and performance after implementation of the program.

From the findings of the current study, there are statistical significant differences between all categories of head nurse's performance in pre & post, and pre& follow up phase. And head nurses achieve highest mean score in soft skills categories, this result goes in the same line with study done by **Pereira & Duarte, (2012)** who found that when self-efficacy developed and enhanced, soft skills was improved, and it is fundamental to competent performance. In addition, these findings were consistent with the study done by **Ismail, (2019)** who stated that soft skills achieve highest mean score for nursing students, and soft skills category increased significance more than any performance categories after program implementation.

These findings were contrast with the study done by **Elnedaal, (2019)** who found that self-efficacy educational program will achieve high score in performance regarding application of tasks followed by soft skills.

The present study result might be due to self-efficacy improve attitude and soft skills of head nurses include communication, innovation, keeping up to date technically. Head nurses experience high confidence, ability and willingness after program implementation to communicate effectively when dealing with others. From the findings of the current study, there were positive correlations between self-efficacy and total performance with statistical significant relation, this might be due to in-service education provides learning experience in the work setting for the purpose of refining and developing new performance and knowledge related to job performance. Self-efficacy determines whether or not someone will choose to take on a challenging task.

This finding was consistent with the study done by **Hughes, et al., (2011)** who found a strong correlation between self-efficacy and work-related performance. Thus, when self-efficacy increases, so does the performance. In addition, this finding was agreed with the study done by **Shauna, (2013)** who reported that there was relationship between self-efficacy and job performance which can be described as cyclical in

nature: performance affects self-efficacy, which in turn affects performance.

Moreover, these findings agreed with the study done by **Stajkovic & Luthans, (2017)** who found that there were significant positive effects of self-efficacy educational program on performance achievement.

As revealed from the current study, the highest percent of head nurses opinions regarding self-efficacy educational program contents are excellent. This might be attributed to self-efficacy educational learning program was constructed based on the trainee needs (need assessment), the new information and experience, contents were attractive and clear, topics were suitable for levels of trainees, program objectives were derived from the head nurses themselves which are realistic and measurable, and compatibility of educational activities with the study topics all this make the program from participants point of view excellent.

This finding was agreed with studies done by **Bukov & Georgieva, (2013) & Delahaye, (2015)** who reported that participants in self-efficacy training program agreed that the program contents were excellent due to participation and feedback from trainee.

Moreover, these findings were contrast with **Smallegan, (2018)** who stated that the content of the program must be familiar enough to the group participants. On other hand this findings was inconsistent with **Faulk, (2018)** who found that if all subjects matter was new to the nurses participating in a program, it might result in decreased learning since they would have little to relate the new information to the old one.

As revealed from the current study, the highest percentage of head nurses opinions were excellent regarding all items of educational program appropriateness, these findings were agreed with **Abou-Youssef, (2017)** who indicated that using combined teaching methods will provide opportunities for all participants to learn according to their own style. And this finding goes in the same line with **Young & Hayne, (2018)** who mentioned that visual aids may capture the attention of the learners. Using the helping media in teaching was a successful motive for retaining knowledge. This might be attributed to using audio-visual aids efficiently, organizing the participants in the training hall, motivating them, and time of session was suitable, there where refreshment every 20 min. suitable motives were used during training, continuous encouragement of trainees which make training appropriate and effective.

## Conclusions

**In the light of the study results, the following conclusions can be drawn:**

The study concluded that there were statistically significant differences between pre & post and pre & follow up phases regarding; head nurses' self-efficacy levels, head nurses' knowledge about self-efficacy, and head nurses' performance. There were improvement in head nurses' self-efficacy levels, head nurse's knowledge, and job performance immediately after implementation of the educational program. This improvement was mostly retained after three months (follow up) with a slight decline from immediate post program implementation and it was still higher when compared with pre implementation level.

## Recommendations

**In the light of the study results, the following recommendations will be suggested:**

- Updating curriculum of the Faculty of Nursing to include self-efficacy in the undergraduate courses.
- Further training about self-efficacy for physicians, nurses and nursing administrators.
- Further research studies are needed to assess the effects of self-efficacy on enhancing nurse's productivity, and commitment.
- The research report will be sent to hospital administrators at Assiut University Main Hospital to maximize the research benefits.

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