



Simulation and Self-efficacy of Maternity Nurses in Management of Pre-eclampsia and Eclampsia

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Abstract

AIM OF THE STUDY: The aim of the study was to evaluate the effect of simulation on self-efficacy of maternity nurses in management of pre-eclampsia and eclampsia. **DESIGN:** A quasi experimental design was utilized. **SETTING:** The study was conducted at Obstetrics and Gynecology Emergency Department of Benha University Hospital. **SAMPLING:** A convenient sample included 40 nurses. **TOOLS:** Three tools are used for data collection: A structured self-administered questionnaire, Observational checklists and Self-efficacy scale. **RESULTS:** There was a highly significant difference between pre-intervention and immediate post-intervention and 8 weeks' post-intervention ($P < 0.0001$) regarding knowledge, practices and self-efficacy of nurses concerning management of preeclampsia and eclampsia. **CONCLUSION:** The study concluded that; simulation-based training was an effective training approach that enhances maternity nurses' knowledge, practice and also increase their self-efficacy regarding management of preeclampsia and eclamptic fits. **RECOMMENDATIONS:** All maternity nurses in different settings should attend regular simulation-based and refreshing courses to improve their knowledge, practice and self-efficacy.

Key words: Simulation, Self-efficacy, Maternity nurses, Preeclampsia, Eclampsia.



INTRODUCTION

Simulation is a training methodology or a technique that is increasingly applied to healthcare education, and provided benefits for practitioners, patients and the health service. Self-efficacy is a commonly cited outcome of simulation training and can influence confidence, achievement and performance (*Morfoot & Stanley., 2018*).

Simulation has an essential role especially in settings with limited resources where there may be a severe shortage of skilled health-care providers. Simulation is used for teaching medical and nursing trainees who often have more severe time constraints than their counterparts in higher resource settings; so, using of simulation to increase the teaching of fundamental obstetric and gynecologic skills may be very useful (*Myer & Chen., 2019*).

Pre-eclampsia is considered as one of the most common medical complications during pregnancy. Preeclampsia is diagnosed with systolic blood pressure ≥ 140 or diastole ≥ 90 , presence of proteinuria with or without edema. Pre-eclampsia occurs after 20 weeks of pregnancy, affects about 5% to 8% of all pregnancies, when PE is accompanied with seizure, is called eclampsia. The prevalence of preeclampsia in developing countries has been reported to be 1.8%–16.8%. According to WHO, 2.3% of all cases of preeclampsia lead to eclampsia and most of the deaths associated with preeclampsia were due to delayed diagnosis, improper management and nursing care program (*Tabatabaeian et al., 2018*).

Eclampsia is a significant obstetric emergency that occurs in approximately 2–3% of severe cases of preeclampsia who have not received seizure prophylaxis. It carries a significant risk for both maternal and fetal morbidity and mortality. It generally occurs as tonic-clonic seizures during antenatal, intrapartum or postpartum period as well. It is commonly preceded with preeclampsia, although its association is not clearly linear (*Cacciola & Martino., 2019*).

Self-efficacy as expressed by Bandura (1977) is an individual's perception of one's capacity to perform at various levels, also it is the ability to select, use, and modify appropriate teaching strategies. Higher self-efficacy is achieved by



understanding and experience that influences teaching behaviors, and professional development and also leads to increasing self-efficacy (*Garner et al., 2018*).

Misinterpretation or failure to recognize worsening signs of preeclampsia may result in delayed diagnosis and appropriate treatment. So, early recognition and treatment of preeclampsia was identified as a critical factor which reduces maternal morbidity and mortality (*Bernstein et al., 2017*)

As a health-care provider, nurses are responsible for the diagnosis, and management of preeclampsia and eclampsia, so promoting nursing clinical skills in preventing, identifying, and managing complications of pregnancy such as preeclampsia and eclampsia leads to reducing maternal and fetal mortality. Nursing education and increasing their ability to make decisions will improve their performance (*Tabatabaeian et al., 2018*).

Significance of the study

Pregnant women expect that their labor and obstetric staff have been prepared for dealing with complications and emergencies so, they trust that the hospital will use everything available to ensure the best possible outcomes (*Deering, 2018*).

The complexity of emergency situations needs health professionals with properly developed skills, such as: self-confidence and training for dealing with these emergencies. Simulation provides the training of the skills that nurses need to develop for acting productively in complex emergency situations that require the action of highly trained professionals (*Bias et al., 2016*).

In Egypt, maternal mortality ratio is reported to be 45 per 100000 live births according to WHO. In a study conducted to estimate the prevalence of hypertensive diseases of pregnancy in Egypt, (4.2%) had pregnancy induced hypertension, (3.8 %) had preeclampsia and eclampsia. (*Gabal et al., 2017*).



Nurses play an important role in management of hypertensive disorders of pregnancy, so it is found that it may be helpful to implement a simulation to improve self-efficacy of maternity nurses in management of pre-eclampsia and eclampsia.

AIM OF THE STUDY

To evaluate the effect of simulation on self-efficacy of maternity nurses in management of pre-eclampsia and eclampsia, this aim was achieved through:

- 1- Assessing nurses' knowledge regarding management of pre-eclampsia and eclampsia.
- 2- Assessing nurses' practices regarding management of pre-eclampsia and eclampsia.
- 3- Designing simulation framework for nurses in management of pre-eclampsia and eclampsia.
- 4- Implementing and Evaluating the effect of simulation on nurses' self-efficacy regarding management of pre-eclampsia and eclampsia.

Research Hypothesis:

To fulfil the aim of current study, the research hypothesis was formulated as: Nurses' self-efficacy will be improved after the implementation of simulation framework regarding management of pre-eclampsia and eclampsia

MATERIAL AND METHOD

Research design: A quasi experimental design

Research Setting:

This study was conducted at obstetrics and gynecology emergency department of Benha University Hospital. This setting is located in Benha city.

Sample type: A convenient sample was used.

Sample size: 40 nurses were recruited (who are working in obstetrics and gynecology emergency department of Benha University Hospital during the study).



Tools of Data collection:

Three tools were used to collect the necessary data about the study subject as follows:

I. A structured self-administered questionnaire; It was designed by the researcher after reviewing related literature and under guidance of supervisors included the following parts:

PART (1) – Socio-demographic characteristics of studied sample such as (Personal characteristics, Training courses for preeclampsia, Source of information about preeclampsia, etc.) and containing 9 questions.

PART (2) - Assessing knowledge of nurses working in obstetrics and gynecology emergency department at Benha University Hospital regarding management of preeclampsia and eclampsia through items written in simple Arabic language containing (31 questions) in the form of multiple choice and open-ended questions for assessing the nurses' knowledge regarding the following:

- Antenatal care during normal and high-risk pregnancy.
- Definition, causes, signs and symptoms, prevention, and complications of Preeclampsia and Eclampsia.
- Management of Preeclampsia and Eclampsia.
- Magnesium sulfate dose, Toxicity, Antidote and Precautions).

• **Knowledge scoring system:** -

All knowledge variables were weighted according to items included in each question; the answers of the questions were classified into 3 categories. The answers are given score (2) for complete knowledge when more than 60% of a given answer was selected, or if correct answer was selected, score (1) for incomplete knowledge when less than 60% of a given answer was selected, And score (0) if the answer was (I don't know) or wrong answer.



The score of total knowledge was classified as the follows:

- Good: ($\geq 75\%$ complete answers).
- Average: ($60 - < 75\%$ complete answers).
- Poor: ($< 60\%$ complete answers).

II. Observational checklists: to assess nurses practice regarding

- 1- Management of pre-eclampsia and Eclampsia.
- 2- Role of nurse regarding pre-eclampsia and Eclampsia.

• Observational checklists scoring system: -

Each statement scored as follow: (1) if done and (0) if not done

The score of total practice was classified as the follows:

Satisfactory level: $\geq 80\%$

Unsatisfactory level: $< 80\%$

III. Self-efficacy scale: -

It was translated into Arabic from *Christian & Krumwiede., (2013)*, without any modification by the researcher. The scale was implemented by the researcher to assess self-efficacy of the studied nurses regarding management of preeclampsia and eclampsia. The scale consisted of 16 statements with five-point (Likert scale type) about issues that measure self-efficacy of the studied nurses regarding management of preeclampsia and eclampsia.

Self-efficacy scoring system:

To obtain the outcome of attitude scale, each statement scored as follows : (5) if the response was "Very confident ", (4) if it was "Confident", (3) if it was "Uncertain", (2) if it was "Not confident" and (1) if it was "absolutely not confident ". The total score is expressed as a percentage.

Total score of self-efficacy was considered as follows:

- High self-efficacy: $\geq 75\%$
- Moderate self-efficacy: $60 - < 75\%$
- Low self-efficacy: $< 60\%$



Validity and Reliability of the tools:

Tools of data collection were reviewed by panel expertise (three specialized university professionals in the field of obstetrics and gynecology). According to their judgments on clarity of sentences and the appropriateness of content, Modifications were done, such as rearranging some questions, some punctuation and merge observational checklists to be:

- observational checklist for management of preeclampsia.
- observational checklist for management of eclampsia.

Cronbach's alpha coefficient test was calculated to assess the reliability that indicated that each of the three tools consisted of relatively homogenous items as indicated by the moderate to high reliability of each tool. The internal consistency of knowledge was 0.856, The internal consistency of practice was 0.869, The internal consistency of self- efficacy was 0.879.

Ethical considerations:

- The aim of the study was explained to each nurse before applying the tools to gain their confidence and trust.
- An oral consent was obtained from each nurse to participate in the study and withdraw when she needs without obligation.
- The study has no physical, social or psychological risk on the participant.
- The data were collected and treated confidentially.
- Each nurse was informed about time throughout the study, Such as duration of pretest, discussion, previewing simulation video, training on certain procedures, posttest and follow up.

1-Operational Design:

(1) Approval:

An official letter signed from the dean of Benha Faculty of Nursing contains the title and objective of the study was directed to the director of Benha university hospital to obtain their official agreement to conduct the study.



(2) Tools:

A review of current and past national and international relevant literature related to preeclampsia and eclampsia, is carried out by using local and international books, journals, periodicals in addition to computer search to develop the study tools and contents.

- Developing and translating tools into simple Arabic language.

(3) Pilot Study:

- A pilot study was conducted to test the clarity and applicability of study tools and estimate the time needed for data collection.
- 10% of the total sample (4) nurses were randomly chosen.
- No modifications were done in the form of adding or omitting questions.
- The sample of the pilot study was included in total sample of the study.

(4) Collection of data:

The study was implemented for seven months, from the beginning of October 2017 to the end of April 2018. Implementation of the study was carried out at obstetrics and gynecology emergency department of Benha University Hospital. The researcher began the study by visiting Benha University Hospital two days per week, from 9 a.m. to 2 p.m. Sometimes the researcher would go during Afternoon or night shift, the time was determined according to the participating nurses' suitable time.

(5) Procedure of the study:

1- Interviewing and Assessment phase:



كلية معتمدة

- The researcher introduced herself and all nurses were interviewed, the purpose of the study was explained and an oral consent was taken from them to participate in the study, then socio-demographic data were collected.
- Data were collected through pre-test questionnaire related to baseline data about knowledge, practice and self-efficacy regarding management of pre-eclampsia and eclampsia. This phase took 15-25 minutes

2- Planning phases:

Based on pre-test results, the simulation frame work regarding management of pre-eclampsia and eclampsia was prepared by the researcher after reviewing related literature.

It was a video to simulate care for preeclamptic and eclamptic women, this video was collected from YouTube and translated in Arabic to suit the nurses (Simulation scenario). The second tool was a Booklet about preeclampsia and eclampsia management.

3- Implementation phase:

All nurses were divided into groups, each group comprised 4-5 nurses. Simulation was applied through series of sessions;

Session 1: Discussion of theoretical information on pre-eclampsia and eclampsia through the booklet which lasted for an hour.

Session 2: View simulation video which lasted for 10 minutes.

Session 3: Training the nurses on procedures concern the care of women with preeclampsia and eclampsia as:



Measuring blood pressure, weighing pregnant women, assessing deep tendon reflex and pitting edema. This session lasted for an hour.

Session 4: was half an hour for debriefing and feedback from nurses.

4- Evaluation phase:

After applying the simulation, the researcher used the same previous assessment tool except socio-demographic data (Posttest) to evaluate the effect of simulation on nurses' knowledge, practice and self-efficacy regarding management of pre-eclampsia and eclampsia. This phase lasts for 25 minutes.

5- Follow up:

After eight weeks the researcher used the same previous assessment tool (Post test) to follow up the effect of simulation on nurses' knowledge, practice and self-efficacy regarding management of pre-eclampsia and eclampsia, This phase lasts for 25-30 minutes.

2-Statistical analysis:

Data were verified prior to computerized entry. The Statistical Package for Social Sciences (SPSS version 20.0) was used for that purpose, followed by data tabulation and analysis. Descriptive statistics were applied (e.g., mean, standard deviation, frequency and percentages). Paired t-test, Chi-square test and Pearson correlation coefficients were used. A significant level value was considered when $p \leq 0.05$. And A highly significant level value was considered when $p < 0.001$.

Study Limitations:

- The workplace was not highly prepared with necessary equipment So, the researcher brought most of the equipment as: Laptop to display simulation video, Weight measuring device, sphygmomanometer, Hammer for deep tendon reflexes.
- No data show available in department.

RESULTS

Table (1): Frequency Distribution of Studied Sample Regarding their Socio-Demographic Data (N= 40).

Socio-Demographic Data	Frequency	%
Age in years		
21-31	30	75.0
32-41	5	12.5
42-51	5	12.5
Mean ±SD	29.02±7.66	
Educational qualification		
Secondary nursing education	13	32.5
Technical nursing education	25	62.5
Bachelor of nursing	2	5.0
Current job		
Bedside nurse	13	32.5
Technical nurse	25	62.5
Head nurse	2	5.0
Years of experience		
<10	28	70.0
10 - <20	7	17.5
20-30	5	12.5
Attending workshops related to antenatal care		
No	31	77.5
Yes	9	22.5
Site of training (n = 9)		
Outside the hospital	2	22.2
At hospital	7	77.8
General Idea about Preeclampsia-Eclampsia		
NO	8	20.0
YES	32	80.0
Source of Information (n=32)		
STUDYING	9	28.1
WORK EXPERIENCE	23	71.9

Table (1) shows three quarters of nurses (75%) were 21 to 31 years old, (29.02±8.66). More than half of them (62.5%) had technical nursing education, More than two thirds (70%) had experience of one to ten years, More than three quarters (77.5%) had no Antenatal care training, More than three quarters of nurses (80%) have a general idea about eclampsia, More than three quarters of them had their source of information from work experience.

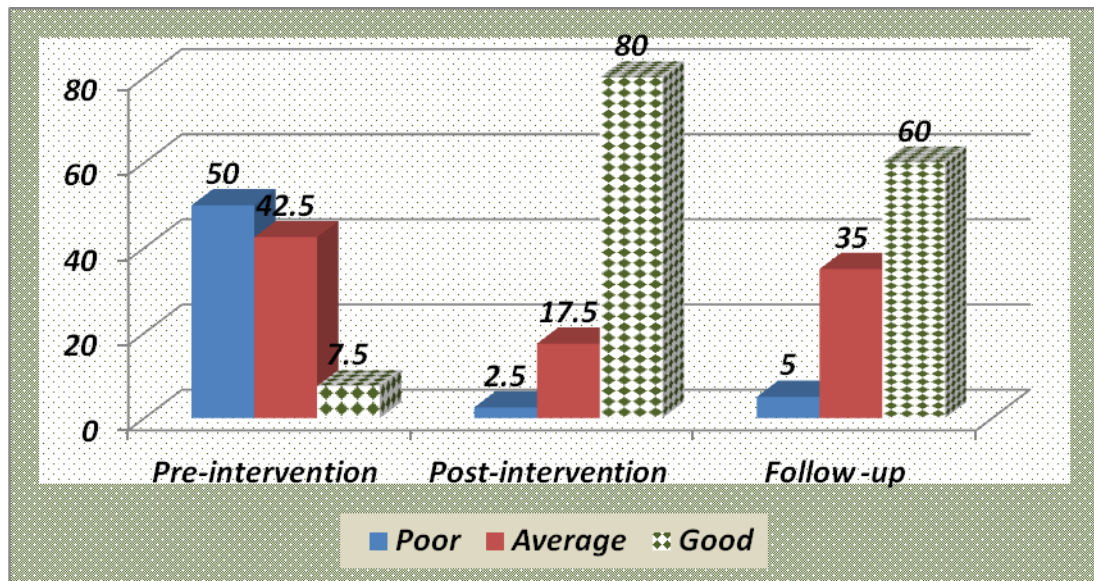


Figure (1): Percentage Distribution of Studied Sample Regarding Their Total Knowledge Score Regarding Management of Preeclampsia and Eclampsia at Different Times of Assessment (N= 40).

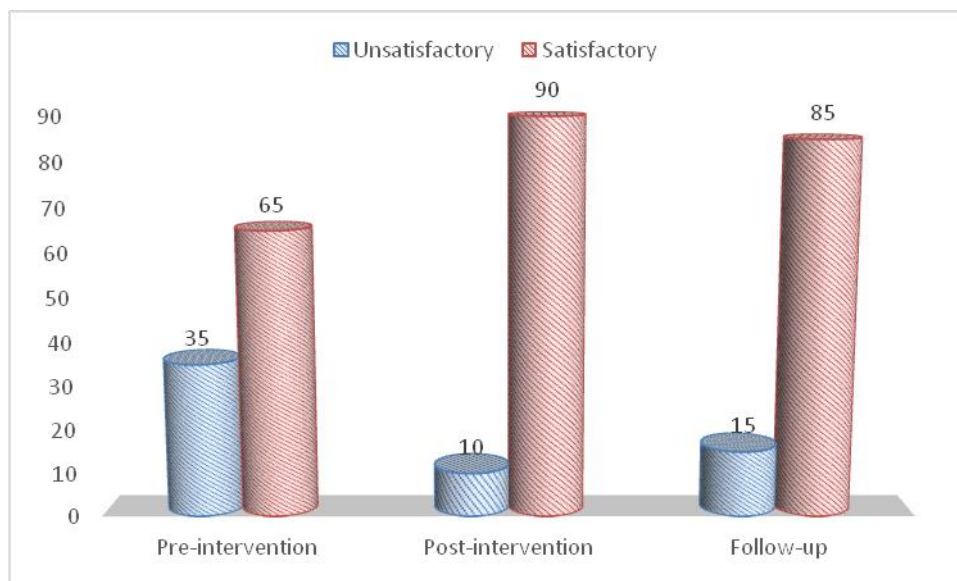


Figure (2): Percentage Distribution of Studied Sample Regarding Their Total Practice Score Regarding Management of Preeclampsia and Eclampsia at Different Times of Assessment (N= 40).

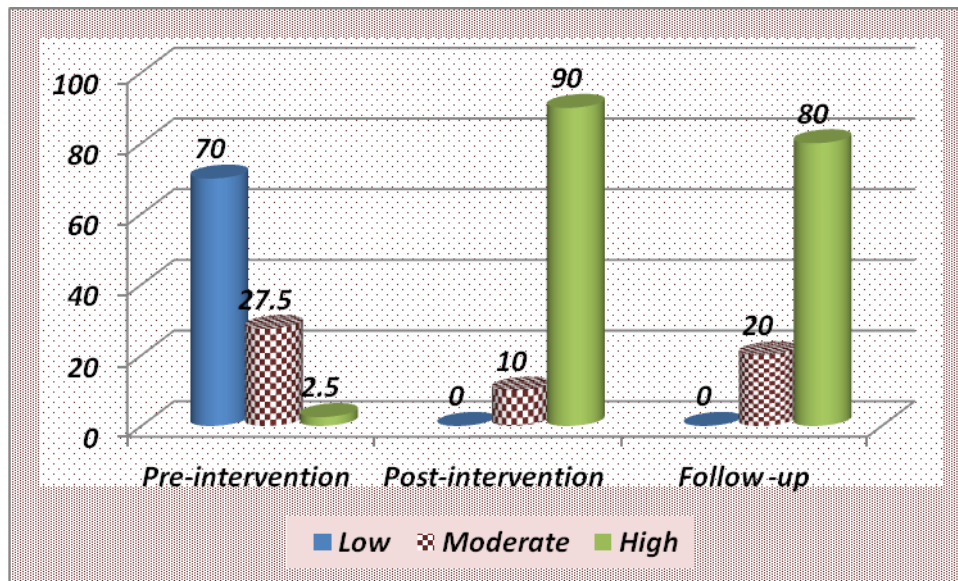


Figure (3): Percentage Distribution of Studied Sample Regarding Their Total Self-Efficacy Score Regarding Management of Preeclampsia and Eclampsia at Different Times of Assessment (N= 40).

TABLE (2): Correlation between Studied Sample Total Knowledge, Practice, Self-Efficacy and Their Personnel Characteristics at Different Phases of Assessment (N= 40).

Variables		Pre-intervention			Immediate post intervention			Follow up after intervention		
		Practice	Knowledge	Self-efficacy	Practice	Knowledge	Self-efficacy	Practice	Knowledge	Self-efficacy
Age	Pearson Correlation (r)	0.034	0.065	0.156	0.324*	0.421**	0.374*	0.358*	0.461**	0.398**
	P value	>0.05	>0.05	>0.05	<0.05*	<0.001**	<0.05*	<0.05*	<0.001**	<0.001**
Years of experience	Pearson Correlation(r)	0.165	0.154	0.075	0.276*	0.439**	0.371*	0.261*	0.276*	0.428**
	P value	>0.05	>0.05	>0.05	<0.05*	<0.001**	<0.05*	<0.05*	<0.05*	<0.001**
Educational qualification	Pearson Correlation(r)	0.298*	0.371*	0.473**	0.652**	0.395*	0.446*	0.298*	0.331*	0.419**
	P value	>0.05	<0.05*	<0.001**	<0.001**	<0.05*	<0.001**	<0.05*	<0.05*	<0.001**

Table (2): Shows a highly statistically significant positive association between total nurses knowledge, self-efficacy and their age immediately post-intervention and at follow up, there is a highly statistically significant positive association between

total nurses knowledge (immediately post-intervention) and total nurses self-efficacy (at follow up) with their years of experience, Also there is a highly statistically significant positive association between total nurses self-efficacy and their educational qualification before, immediately post-intervention and at follow up, Also there is a highly statistically significant positive association between total nurses practice and their educational qualification immediately post-intervention.

Table (3): Correlation matrix between Studied Sample Total Knowledge, Practice and Self-Efficacy at Different Phases of Assessment (N= 40).

Variables		Pre-intervention			Immediate post intervention			Follow up (8 weeks) after intervention		
		Practice	Knowledge	Self-efficacy	Practice	Knowledge	Self-efficacy	Practice	Knowledge	Self-efficacy
Total practice	Pearson Correlation(r)	1	.277	.336*	1	.353*	.414**	1	.343*	.674**
	P value		.084	.034		.025	.000		.030	.000
Total knowledge	Pearson Correlation(r)	.277	1	.116	.353*	1	-.010	.343*	1	.427**
	P value	.084		.475	.025		.953	.030		.006
Total self – efficacy	Pearson Correlation(r)	.336*	.116	1	.414**	-.010	1	.674**	.427**	1
	P value	.034	.475		.000	.953		.000	.006	

Table (3): Shows a highly statistically significant positive correlation between practice and self-efficacy during post intervention and follow up (8 weeks). Also, there is highly statistically significant positive correlation between knowledge and self-efficacy during follow up (8 weeks) after intervention. Also, there is highly statistically significant positive correlation between self-efficacy and practice during post intervention and follow up (8 weeks) and with knowledge during follow up (8 weeks).



DISCUSSION:

Preeclampsia remains the main threat during pregnancy until now. It is defined as a multi-system disorder of pregnancy characterized by hypertension and proteinuria with or without edema after 20 weeks of gestation (*Serban et al., 2018*).

Annually, there are 10 million women worldwide suffering from pre-eclampsia. About 76,000 of them die each year due to pre-eclampsia and related hypertensive disorders. The number of babies dying from these disorders is believed to be around 500,000 per year. In developing countries, women are seven times more likely to develop pre-eclampsia than women in developed countries (*Prithi et al., 2018*) According to *Ibrahim., 2019*, the incidence of pre-eclampsia in Egypt, has decreased from 12.5% in 1994 to 3.8% in 2017 of all deliveries. This may be due to focus on enhancing quality of antenatal care and continuous improvement of hospital care and follow-up

So, the aim of the present study was to evaluate the effect of simulation on self-efficacy of maternity nurses in management of pre-eclampsia and eclampsia. The findings of this study significantly support the research hypothesis, which confirms the importance of utilizing simulation for improving nurses' self-efficacy regarding management of preeclampsia and eclampsia.

Nurses knowledge regarding management of PE/E:

The current study showed significant total knowledge improvement immediately post-intervention and after eight weeks follow up. Before intervention a few nurses had good knowledge. while half of nurses had poor knowledge, After the intervention more than three quarters of the sample exhibited good information, also after eight weeks follow up about two thirds of nurses had good knowledge.

These results are supported by *Emam & Saber., (2018)* who found increased in level of nurses' knowledge after intervention. Before intervention less than one third



had good knowledge, and after intervention three quarters of them had good knowledge.

This represents the effectiveness of the intervention, content and the importance of the topic for emergency nurses. This urged working interested nurses to participate in the study to acquire more knowledge and practice.

Nurses practice regarding management of PE/E.

The current study showed a significant improvement of nurses practice regarding management of preeclampsia and eclampsia immediately post-intervention and after eight weeks, where before intervention about one third of nurses had satisfactory practice while the two thirds had unsatisfactory practice. This may be due to paucity of cases and lack of experience of studied nurses.

This result is in agreement with *Emam & Saber., (2018)* and found that before intervention, less than majority of nurses had poor and average practice while after intervention, majority of nurses had good practice. Moreover, this result is supported by *Adoyi et al., (2016)* who found that Providers' skills on PE/E were insufficient because essential tools were not available such as sphygmomanometers and stethoscopes, urine dipsticks and drugs including magnesium sulphate (MgSO₄) and anti-hypertensive.

After the intervention majority of studied sample had satisfactory practice. This improvement shows the effectiveness of simulation in improving nursing practice in emergency situations.

Nurses self-efficacy regarding management of PE/E.

The concept of self-efficacy is related to the belief that everyone has to evaluate the abilities to perform a given task successfully. This concept has a strong influence on the task approach, the persistence to accomplish the same, as well as the



level of effort (*Goulão., 2014*). The results of the current study showed a highly statistically significant improvement of nurses' self-efficacy immediately post-intervention and after eight weeks follow up ($P<0.001$).

The results of the current study agreed with *Christian & Krumwiede., (2013)* who found a highly statistically significant relation between self-efficacy score before training and immediately following training and 8 weeks following training. This is also on the same line with *Kimhi et al., (2016)* who studied the impact of simulation and clinical experience on self-efficacy in nursing students and concluded that simulation increased self-confidence/self-efficacy equivalently if placed either before or after clinical experience.

The results of the current work are in accordance with *Larsen M., (2017)* who found that those who received simulation-based lessons had more positive experience and higher rating self-efficacy compared to the group who received traditional lessons, Also *Centrella-Nigro et al., (2016)* found a significant difference in self-competence scores for the Simulation cohort.

The findings are also supported by *walker et al., (2015)* who evaluate PRONTO (Programa de Rescate Obstétrico y Neonatal: Tratamiento Óptimo y Oportuno) simulation training for obstetric and neonatal emergency response teams in Guatemala and revealed that self-efficacy scores improved significantly in all aspects of teaching after using PRONTO simulation training which is effective at improving provider knowledge and self-efficacy in training areas.

According to *Dettinger et al., (2018)* who measured movement towards improved emergency obstetric care with implementation of the PRONTO simulation and team training program, and demonstrated that participants valued PRONTO simulation training; with statistically and practically significant improvements in knowledge, self-efficacy, and team function; and were able to successfully complete



self-determined strategic goals. The PRONTO intervention successfully created conditions for improving quality of clinical care. Only with the appropriate clinical knowledge, confidence, and availability of critical supplies it's possible for providers to successfully manage emergency situations as preeclampsia and eclampsia.

On the same line *Hsu et al., (2015)* who studied the effects of scenario-based simulation course training on nurses' communication competence and self-efficacy, and demonstrated that traditional classroom lectures and simulation-based communication training could produce both enhanced communication competency and self-efficacy among nurses, and established that the simulation-based communication training may be better than the former in terms of learner satisfaction and communication performance improvement. So, introduction of simulation-based training to in-service nursing education could enhance nurses' communication performance in clinical practice.

This result also agreed with *Kimhi et al., (2016)* who revealed that simulation increased self-confidence/self-efficacy equivalently if placed either before or after clinical experience. Also *Roh et al., (2016)* studied the effects of an integrated simulation-based resuscitation skills training with clinical practicum on mastery learning and self-efficacy in nursing students, and emphasized that integrated simulation-based resuscitation skills training combined with a clinical practicum might be beneficial for enhancing mastery learning and self-efficacy in nursing students through learner engagement and feedback.

According to *Vuk et al., (2015)* who studied the impact of simulation training on self-efficacy of outpatient health care providers to use electronic health records, and showed that simulation training should be considered as an interactive and effective method of teaching prior to implementation of EMRs (electronic medical records) in medical institutions. Also, *Dunn et al., (2014)* whose study on high-fidelity simulation and nursing student self-efficacy supported the assumption that



high-fidelity simulation (HFS) training may be a valuable tool for increasing nursing students' efficacy for aspects of clinical practice. These results are also supported by *Franklin & Lee., (2014)* who studied the effectiveness of simulation for improvement in self-efficacy among novice nurses and illustrated that Simulation is effective at increasing self-efficacy among novice nurses, compared with traditional control groups.

The current study showed a significant total self-efficacy improvement immediately post-intervention and after eight weeks, where before intervention almost all of studied nurses had low and moderate self-efficacy regarding management of preeclampsia and eclampsia. This could be due to lack of knowledge and experience of studied nurses.

These results supported by *Evensen et al., (2015)* who illustrated that participation in a novel, low-fidelity simulation training program increased Ethiopian health workers' self-assessed confidence in addressing common obstetrical emergencies. This increase in confidence persisted in most topic areas for at least six months as assessed by a pre/post study.

CONCLUSION

Results of the present study demonstrated that; use of simulation learning for management of preeclampsia and eclampsia were effective and provided nurses with proper knowledge and practice and increased their level of self-efficacy. Moreover, there was a highly statistically significant positive correlation between practice and self-efficacy during post intervention and follow up. Also, there was highly statistically significant positive correlation between knowledge and self-efficacy follow up after intervention. Meanwhile there was highly statistically significant positive correlation between self-efficacy and practice during post intervention and follow up and with knowledge during follow up. The above-mentioned findings have mainly supported the study hypothesis.



RECOMMENDATIONS:

In the light of the current study findings, the following recommendations are suggested:

- Simulation based training regarding preeclampsia and eclampsia is recommended for all nurses working at obstetrics and gynecology units.
- Workplace and skill lab need more essential equipments to deal with cases of preeclampsia, eclampsia fits and other high-risk complications.

Further study needs to be performed:

- It is important to conduct an extensive study on large sample size and at different settings to improve nurses' knowledge, practice and self-efficacy regarding management of preeclampsia and eclampsia fits.
- Study the comparison between the effectiveness of simulation and traditional methods on maternity nurses' self-efficacy.

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