

Effect of implementing Triage Training Program on obstetric Nurses' Performance

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Abstract

Background: The obstetric triage nurse is often a patient's first point of contact with the birth unit. The triage unit nurse is instrumental in identifying the patient who presents with urgent or emergent conditions and preventing denial and delay in appropriate care. So the Obstetric Triage Education course is the first course addressing obstetric triage unit nursing care and is an essential component in a triage unit nurse's orientation. The aim is to assess the effect of implementing triage training on obstetric nurses' performance. **Research Design:** quasi-experimental pre/post-test design Setting: Conducted at Maternity and Child Minia University Hospital's delivery, labor, filter clinic, and highly dependent unit on. **Sample:** A convenient sample of all nurses (63 nurses). **Tools:** Two tools: the **first tool** consisted of two parts: (1) a self-administered questionnaire; the second part (2) assessed the obstetric nurses' knowledge regarding obstetric triage; **the second tool** (3) was an observational checklist to assess the nurses' practice. **Results:** findings of actually study this demonstrates that no nurses had adequate knowledge pre-triage training program compared to 64.40 % of nurses had adequate knowledge post-triage training program. Additionally, 83.10 % of nurses had satisfactory level of total practice post - triage training program compared to 0% pre-triage training program. **Conclusion:** The level of knowledge and practice had increased after the implementation of the triage training program (p 0.001). **Recommendation:** Regular educational programs are needed for nurses to maintain and refresh their knowledge and practice regarding obstetric triage.

Keywords: Obstetric Nurses' Performance, Triage , Training Program.

Introduction:

The problem of obstetrical emergency mismanagement is a global concern. The most common cause of adverse events affecting the management of these emergencies was identified as insufficient staff training, especially among newly trained nurses (Fransen et al., 2020).

Also, high-risk perinatal centers are seeing higher-risk patients as the prevalence of pregnancy-related co-morbidities (obesity, diabetes, hypertension, etc.) increases. Obstetric triage is the entry into labor and delivery as well as the obstetric operating rooms, and patients should be evaluated for life-threatening risk factors and dangers immediately upon arrival rather than waiting to be seen on a first-come, first-served basis. The implementation of obstetric triage standards and the utilization of an obstetric triage index have the potential to dramatically increase patient outcomes, patient safety, and patient satisfaction (Gardner et al., 2018).

Obstetric triage has become one of the most crucial innovations in the field of perinatal care in the past 15 years. In lower-middle-income countries (LMICs), pregnant patients are seen in a conventional way based on the time of their arrival; this divergent, unbalanced, and inequitable approach results in delayed initial evaluation, prolonged length of stay (LOS), and affected clinical outcomes. With the growth of obstetric triage as a specialty, an increase in obstetric patients presenting for care has also occurred. (Rashidi et al., 2020).

Triage is a process of categorizing patients in order to prioritize their need to receive care through the determination of acuity (Ruhl et al., 2020). In obstetrics, women present to labor and delivery with an assortment of medical, obstetrical, or fetal concerns. Timely assessment based on acuity level, resource mobilization, provider notification, and escalation of care is the responsibility of the registered nurse providing care (Ruhl et al., 2020).

Major morbidity and mortality are essentially preventable, and triaging the patients according to a standardized tool requires education, coordination, integration in hospital culture, practice alignment with other safety initiatives, and administrative support (Friedma et al., 2018).

So the Association of Women's Health, Obstetric, and Neonatal Nurses ("AWHONN") recommended that triage of a pregnant woman be a brief, thorough, and systematic method to quickly determine the urgency of disposal of the woman and her fetus. It is the first obstetric acuity tool developed by a professional society for use across the United States in 2016, and after an efficiently conducted pilot study, it is now being implemented in a huge number of obstetric patient care hospitals. According to recent national guidance in the UK a delay of thirty minutes or more between reporting ages of a pregnant woman is a brief, thorough, and systematic method to quickly determine the urgency of disposal of the woman and her fetus. It is the first obstetric acuity tool developed by a professional society for use across the United States in 2016, and after an efficiently conducted pilot study, it is now being implemented in a huge number of obstetric patient care hospitals. According to recent national guidance in the UK, a delay of thirty minutes or more between reporting to the hospital and receiving triage can result in serious red flag obstetric events. This survey also demonstrated a wide variation in triage systems or no system at all, resulting in some serious complications (NICE, 2015).

Knowledge in triage affects making the right decision to determine whether the patient needs immediate help or not while paying attention to possible complications that arise after triage is carried out (Huriani et al., 2022). The triage nurse should have the necessary education, skill training, and relevant experiences to perform this role adequately. This training should involve triaging skills,

decision-making, and emergency nursing interventions (Faheim et al., 2019).

Simulation-based training is one of the most common and important innovative education methodologies. Simulation-based nursing training contributes to the cognitive (knowledge acquisition and cognitive skills development), psychomotor (psychomotor skill), and affective (attitudes, beliefs, and behaviors) domains of learning (Younas et al. 2019).

Operational definitions

Triage: Triage is a process of categorizing patients in order to prioritize their need to receive care through the determination of acuity (Ruhl et al., 2020).

Training program: Training programs are considered an integral part of the development of human resources. It is an organized tool for the development of specific skills to the desired standard with the help of information, instruction, guidance, and practice (Noor et al., 2020).

Nurse's performance: Nursing performance is an important measure of work productivity and patient safety. At the bedside, nurses are responsible for assessing and monitoring patients' changing conditions, coordinating their care, administering medications precisely, and communicating with the patients and their families. (Sagherian, 2018).

Significance of the Study

There has previously been no standardized tool for prioritizing and assessing pregnant women in developing countries such as Egypt. In our hospitals, triage is structured for emergency hospitals but not well structured in the obstetric department, although the obstetric emergency unit exists. Sorting pregnant women's needs by obstetric triage (OT) as urgent or emergent pregnancy and non-pregnancy-related needs is a critical component for improving the pregnant woman's and fetus's safety and decreasing medical errors, which are dependent on how knowledgeable and trained the obstetrical nurse is on the timely basis assessment, nurses' communication, planning, and implementation of the immediate action intervention. The continuous improvement of obstetric nurse knowledge and practices regarding current prenatal care is a critical component of achieving high-quality health services (Elmashad et al., 2020).

On the other hand, the educational system for preparing emergency nurses is still insufficient compared with the growing demand for emergency services. Previous studies revealed that triage was not implemented at the emergency room due to insufficient knowledge, insufficient nurses, and a lack of motivation in inpatient care. In upper Egypt, particularly in the study settings, there was no statistical report about the incidence of the implementation of triage services. Based on our observation, there are 63 obstetric nurses distributed to work on the three shifts. About 20-25 emergency nurses offer services to 50-80 patients per shift. The ratio of emergency nurses in a triage room to patients each shift is 1:35-40, approximately. This study aimed to support our local community in a mini-university obstetric hospital with the appropriate training in obstetric emergencies and evaluate the effect of triage training on nurses' performance in those departments after implementation of the training. Program.

Aim of the Study

The aim of this study is to

To assess the effect of implementing triage training on obstetric nurses' performance.

Hypothesis of the study

- H1: The nurses' knowledge scores will improve after implementing triage education, compared to their pre-knowledge level.
- H2: The nurses' practice will be improved after implementing triage training, compared to their pre-practice level.

Subjects and Methods:

Research design:

A quasi-experimental pre/post-test design (one group) was used to achieve the aim of this study.

Research setting:

This study was conducted at the delivery, labor, and filter clinics at the Maternity and Child Minia University Hospital, which is a highly dependent unit

Sample:

The study included all nurses (63 nurses) who work in highly dependent units (16 nurses), delivery rooms (22 nurses), operating rooms (10 nurses), and the filter clinic (15 nurses), as well as all previous nurses who were enrolled in the Minia University Hospital for Maternity and Child at the time of data collection

Tools of data collection:

Data Collection Tools:

Tools of data collection were developed by the researcher after an extensive review of the literature and similar studies conducted elsewhere. After that, the tool for data collection was revised by five panels of obstetrical and gynecological experts on the nursing staff. The data collection tool consisted of two tools:

The first tool:

- **A self-administered Questionnaire.** It was used to assess and collect data related to two main parts:

Part (1). (It was to assess the general characteristics of the nurses, such as age, qualification, years of experience, current working job responsibility, and experience in handling obstetric emergencies, and attendance at educational or practical training about triage.)

Part (2). Was to assess the obstetric nurses' knowledge regarding obstetric triage It consisted of twelve open-ended questions regarding obstetric triage definition, its main goal, understanding and application of triage colors, awareness of obstetric triage scales, pregnant woman categorization, as well as obstetric triage definition, colors of triage, function of triage, triage principles, and triage it contained types of triage scales, obstacles to maternal and fetal outcomes, levels of severity, action according to levels of severity, a time limit in an urgent situation, and prioritization according to clinical presentation.

Scoring System:

Scoring system for nurses' knowledge regarding obstetric triage:

Scoring for nurses' knowledge: Each question had a score of three; either a score of (3) for a complete correct answer, a score of (2) for a partially correct answer, or a score of (1) for an incorrect or do not know answer. The total score was 24. Total knowledge scores were converted into a percent score and inadequate knowledge scored (< 60%). Adequate knowledge scored (> 60%).

The second tool:

Tool II: observational checklist to assess nurses' practice:

This checklist was developed by the researcher after reviewing relevant literature. To assess the practice of emergency nurses regarding triage. It consisted of 44 questions, including triage communication (9), "Participants use clarity when giving each other instructions," "triage assessment" (8), "assess the availability of patient safety precautions, such as bedside rails, upstairs," and "triage categories based on MFIT" (8), "assign MFTI prioritization score." and documentation of triage assessment findings (19) as a document listing chief symptoms, complaints, or information desired

Scoring system

For nurses' practices, each item of the nurses' practices had a score of three: either three (3) for a completely done practice, two (2) for an incompletely done practice, or one (1) for a not-completed practice

Total nurses' practice scores were classified into two categories as follows:

If the score <75% of the total score indicated unsatisfactory practices. While if the score of $\geq 75\%$ of the total score indicated satisfactory practices

Tools' validity as well as reliability:

To establish validity, the questionnaire was piloted on a panel of 5 experts from the Obstetrics and Gynecological Nursing Staff, who reviewed the instruments for clarity, relevance, comprehensiveness, understanding, applicability, and easiness. The tools were tested for internal consistency using Cronbach's alpha to ensure the stability of the tools' internal consistency; the test reliability for the knowledge was. At.912, 895 was also in the observation tool.

Pilot Study:

It was carried out on 10% of the total study sample (7 nurses). It was conducted to evaluate the applicability and clarity of the tools, assess the feasibility of fieldwork, and detect any possible obstacles that might face the researcher and interfere with data collection. Necessary modifications were made based on the findings of the pilot study, such as the omission of some questions from the tool and the addition of another, in order to strengthen their contents or for more simplicity and clarity, and to increase the duration of data collection and training to sixty weeks. The pilot sample was included in the main study sample

Administrative design:

An official written approval letter clarifying the title, purpose, and setting of the study was obtained from the Dean of the Faculty of Nursing at Minia University and submitted to

the responsible authorities of the selected hospital for permission to carry out the study.

Ethical consideration

1. Before the conduct of the pilot study as well as the actual study, official permission and consent were obtained from the dean of the Faculty of Nursing as well as the director of the Maternity and Child Minia University Hospital.

A research proposal was approved by the ethical committee in the nursing faculty

1. Consent was obtained from nurses who were willing to participate in the study after explaining the nature and purpose of the study.
2. Study subjects had the right to refuse to participate and/or withdraw from the study without any justification at any time.
3. Study subjects' privacy was maintained during the collection of data.
4. No health hazards were presented.

Participants were assured that all their data was highly confidential, and anonymity was also assured by assigning a number to each nurse instead of names to protect their privacy

Data collection Procedure:

- 1- The current study was achieved through three phases: the assessment phase (pretest), implementation (conducting evidence-based guidelines), follow-up, and the evaluation phase (post-test).

2- Assessment phase (pre-test)

After official permission was obtained from the research ethical committee of the faculty of nursing, the participant's nurses were recruited from the Miniature University Hospital for Maternity and Child. At the beginning of the interview, the researchers greeted each nurse, explained the purpose, duration, and activities of the study, informed them that participation in this study was voluntary and that they had the right to withdraw at any time, and obtained the oral approval of the nurses to participate in the study.

After obtaining the nurses' acceptance to participate in the current study, the researcher provided an overview and clarification about the assessment tool questions, and then the self-administered questionnaire was distributed to each nurse to assess data related to socio-demographic data, general knowledge about obstetric triage nursing practices, and specific knowledge. The time taken to fill out the questionnaire ranged from 25 to 30 minutes. The researcher assessed the nurses' practices regarding obstetric triage cases individually using observational checklists during their work in the emergency room and delivery room during their morning and evening shifts. The researcher conducted data collection three days per week for sixty weeks. At two shifts, morning and evening, starting on June 1, 2021, to the end of October

3- Implementation phase (conducting obstetric triage training program)

The theoretical and practical training was prepared to be given through three sessions, which were provided in Arabic to suit the different educational levels of nurses. The theoretical background and the practical training were prepared to cover the definition of obstetric triage and its main goal, pregnant woman categorization by using obstetric triage

colors according to the level of severity based on the MFTI, while the practical training started with the case scenarios that were prepared to be acted out by the researcher as role plays for examples of certain obstetrical urgent and emergent conditions.

The evidence-based guidelines were applied in 4 sessions: 2 sessions for knowledge (each session lasted from 60 to 90 minutes) and 2 sessions for practice (each session lasted 2 hours). Two sessions per day were required to cover all theoretical and practical evidence-based guidelines, and they were implemented according to work conditions.

The training encompassed three structured sessions and was implemented according to nurses' job loads, shifts, and intellectual and physical willingness. The total sample (59) was divided into four groups; three groups consisted of 15 nurses, and the fourth group consisted of 14 nurses. Each training session lasted between 30 and 45 minutes and was held at Minia University Hospital's obstetric skill lab.

Different teaching methods were used, such as lectures, group discussions with pictures to help with understanding, and demonstrations and re-demonstrations. To encourage nurses to participate in the program, motivation and reinforcement were used through praise and recognition. The data collection and training program began on June 1, 2021, and ended on October 31, 2021.

Supportive material (obstetric triage guideline):

It was designed to enhance nurses' knowledge and practices regarding obstetric triage, which had a positive effect on their practice and quality of care. It was designed by the researcher in the form of a handout (booklet) using simple Arabic language and different illustrative pictures in order to facilitate understanding its contents. It consists of two parts. The first part includes knowledge about obstetric triage. The second part is examples of nursing care plans for three

different common cases of obstetric emergencies (ante-partum hemorrhage, postpartum hemorrhage, and pre-eclampsia).

Concerned with providing the nurses with the essential information about obstetric triage (history of triage, definition, types of triage, colors of triage, levels of triage, triage nurse characteristics, nurse role in triage, component of the MFTI scale, action according to severity, prioritization of cases, time out of triage, examples of nurse care plans according to MFTI),,

Evaluation phase:

The investigator conducted evaluations at two separate times:

- The first evaluation (pretest) is performed prior to the implementation of the guideline by using tools to assess the nurse's knowledge and practice of obstetric triage.
- The second evaluation (immediate posttest) is performed immediately following the implementation of the guideline, using a tool (parts two and three) to assess the nurse's knowledge and an observational checklist (tool II) to evaluate the nurse's practice.

Statistical design: Data analysis and presentation

The collected data was tabulated, computerized, analyzed, and summarized by using descriptive statistical tests to test research questions by using SPSS (IBM, 25). The level of significance was accepted at P 0.05 and will be considered highly significant when the P value is less than or equal to 0.01.

The McNemar test is used to compare the percentage of the group before and after the intervention. ** There is a highly significant difference between the pre- and post-program (p value 0.001).

Results

Table (1): Percentage distribution of obstetric nurses' socio-demographic data (no.= 59).

Characteristics	(no.=59)	%
Age		
• Less than 20years	7	10.1
• 20-25 years	28	40.6
• 26-30years	13	18.8
• 31-35yrs	8	11.6
• More than 35years	3	4.3
Mean+SD = 23.51±2.663		
Educational qualification		
• Diploma	48	81.4
• Bachelor	7	11.9
• Higher	4	6.8
Years of experience		
• Less than 5 yrs.	38	64.4
• 6-10 yrs.	16	27.1
• 11-15yrs.	3	5.1
• More than 15	2	3.4
Experience in handling obstetric emergencies		
• No	5	8.5
• Yes	54	91.5
Current working job responsibility		
• Delivery room nurse	20	33.9

Characteristics	(no.=59)	%
• Highly dependent units nurse	16	27.1
• Operating room nurse	9	15.3
• Clinical nurse	14	23.7
Attending educational or practical training about triage		
• Yes	7	11.9
• No	52	88.1

Table (1): shows the socio-demographic characteristics of nurses in the study sample. The table indicated that nurses' ages (40.6%) range from 20 to 25 years, with a mean age of 23.5 ± 2.7. More than half (64.4%) had less than 5 years of experience, and more than a quarter (27.1%) had 6 to 10 years of experience? Regarding their experience in handling obstetric emergencies, the highest number (90.5%) of them handled obstetric emergencies. In addition, more than two-thirds (81%) of the studied nurses' qualifications were diplomas.

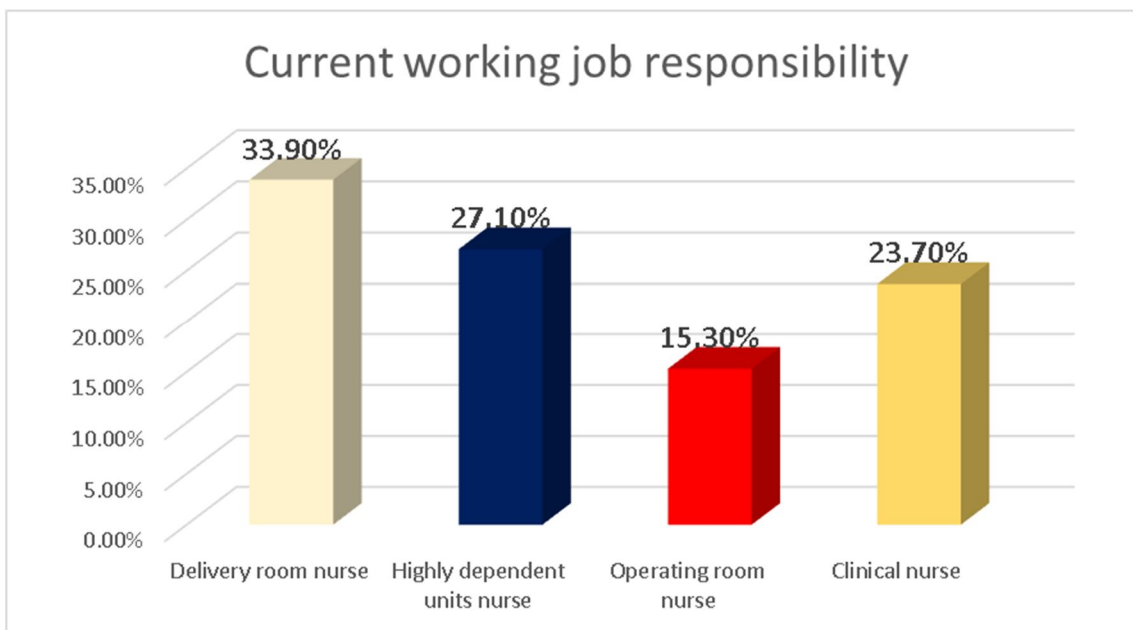


Figure (1): Percentage distribution of obstetric nurses' current working job responsibility (no. = 59).

Figure (1): explain that, 33.9% of nurses worked in the delivery room, 27.1% on high-dependency units, and 15.3% in the operating room.

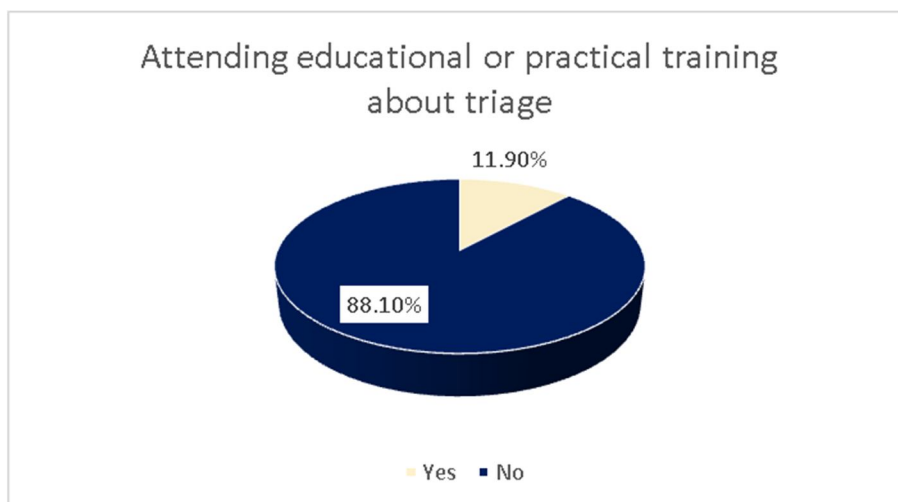


Figure (2): Percentage distribution of obstetric nurses' attending educational or practical training about triage (no. = 59).

Figure (2): Mentions that (88.1%) of nurses didn't attend any training or program about the triage, while the minority them (11.9%) of them attend training or program about the triage.

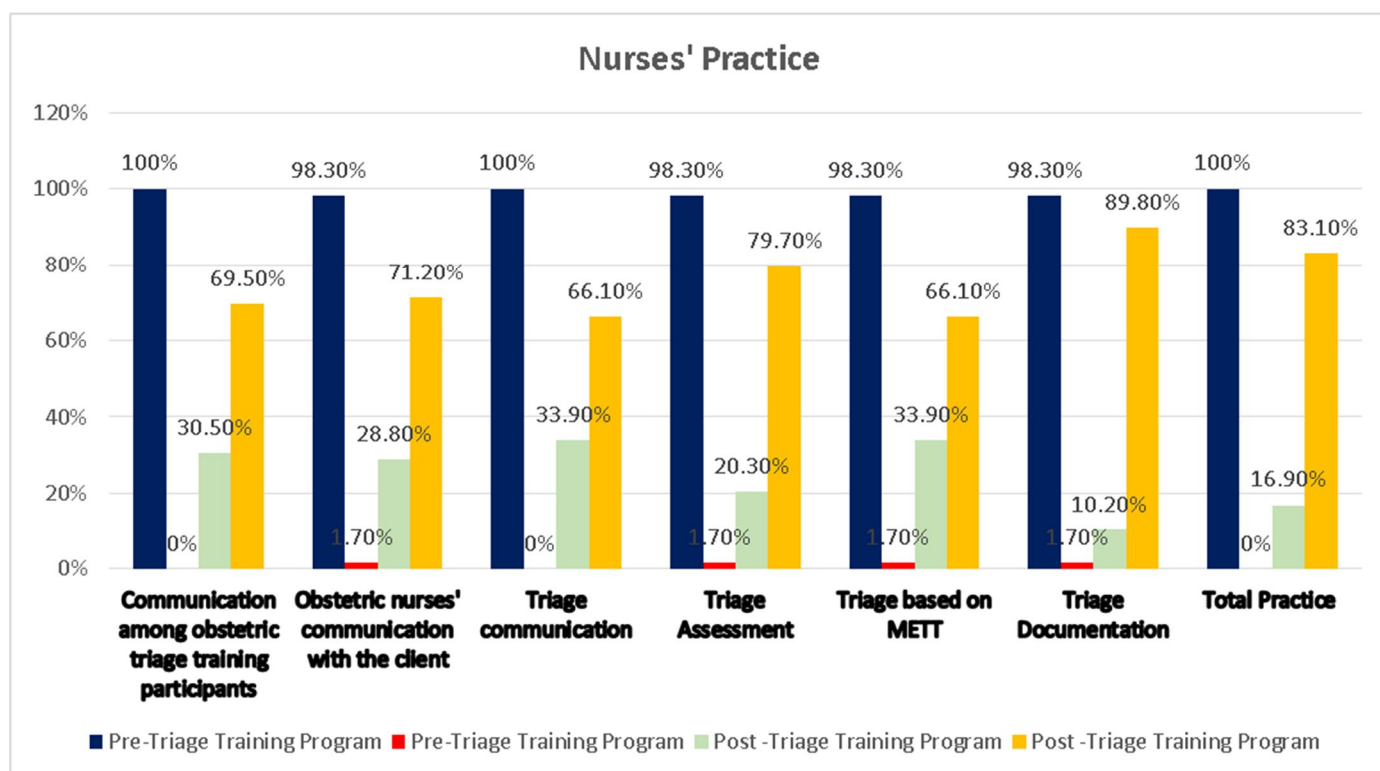


Figure (3) Percentage distribution of obstetric nurses' total practice and its dimensions during pre and post training program (no. = 59)

Figure (3): Mentions that 0% of obstetric nurses had satisfactory communication practices prior to the triage training program, but 69.50% had satisfactory practices after the triage training program.

Also, prior to the triage training program, 1.70 percent of nurses had satisfactory triage assessment practices, compared to 79.70 percent after the triage training program.

In triage based on MFTI, these figures illustrate that **1.70 percent** of nurses had unsatisfactory practice regarding the MFTI pre-triage training program compared to **66.10%** having satisfactory practice post-triage training program.

Finally, figures show that total nurse practice moved from **0%** satisfactory pre-triage training program to **83.10%** satisfactory nurse practice post-triage training program.

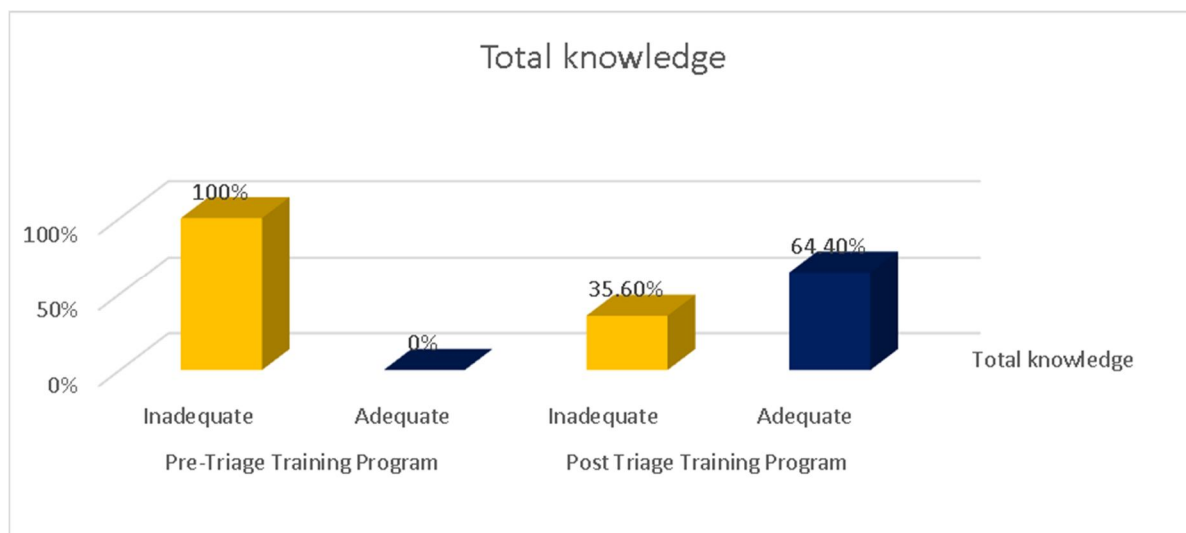


Figure (4) Percentage distribution of obstetric nurses' total knowledge regarding obstetric triage during pre and post training program (no. = 59)

Figure (4): Shows that 0 % of nurses had adequate knowledge pre-triage training program compared to 64.40 % of nurses had adequate knowledge post-triage training program.

Table (2): Correlation between total knowledge, practices scores among studied sample pre and post program (no. = 59).

Variable			Pre-Triage Training Program		Post-Triage Training Program	
			Knowledge	Practice	Knowledge	Practice
Pre-Triage Training Program	Knowledge	r	1	.521**		
		P value		.000		
	Practice	r	.521**	1		
		P value	.000			
Post-Triage Training Program	Knowledge	r			1	.518**
		P value				.000
	Practice	r			.518**	1
		P value			.000	

**Correlation is significant at the 0.01 level (2-tailed). * p≤0.05 (significant)

**p≤0.05 (highly significant), P – value based on Pearson correlation coefficient

Table (2): reveals Correlation between total knowledge and practice scores in the studied sample before and after the program there were positive correlations between total knowledge and practice scores in the studied sample before and after the program at.000 levels of statistical significanc

Discussion:

The maternal-fetal triage index is a high-quality acuity tool for enhancement of patient health care, and its validity has been established in studies. Triage is a clinical assessment that sorts out patients for early diagnosis and treatment; thus, it is a risk management system employed in all busy emergency departments of hospitals (Goodman et al., 2018).

The aim of this study is to assess the impact of implementing triage training on the performance of obstetric nurses.

Regarding to socio-demographic characteristics, the current study finds that the ages of nurses (40.6%) range from 20 to 25 years, with a mean age of 23.5 2.7 years, which contradicts (Hesham et al. 2022), who found that the studied nurses were between the ages of 40 and 50 years. I also disagree with (Ahmed et al. 2019), who stated that more than half of the studied nurses (61.5%) are over 30 years old. These findings may be interrupted due to staff shortages and nurse turnover in the miniature university hospital.

Also, the present study findings are in line with an Egyptian study conducted at the Labor and Delivery Emergency Unit at Mansoura University Hospital, General Hospital, and Health Insurance Hospital, Mansoura, by (Elmashad et al. 2020), who stated that more than three-fifths (58.6%) of them had a diploma educational level. As regards nurses' education, the study's findings stated that about three-quarters of nurses in the present study had technical nursing education. This finding represents a particular Egyptian situation of increasing numbers of technical nurses compared to their faculty-graduated colleagues. This finding could be explained by the vast numbers of secondary schools (either three or five years) and technical institutes compared to the number of nursing faculties all over the country.

As regards nurses' years of experience, more than half of nurses working in obstetrics have less than 5 years of experience. This finding agreed with(Kerie et al. 2018) and (Duko et al. 2019), who found that about 49.2% of the respondents had working experience of less than one year and three years, respectively, in the emergency department.

Regarding attending any training or educational program about obstetric triage, this study stated that more than two-thirds of the studied sample didn't attend any training or educational program about obstetric triage, which is similar to (Tashakor Jahromi et al. 2017), who reported similar findings and emphasized that the educational training of triage

is more essential than work experience (that is not grounded in a sound base) in triage decision-making (Considine et al., 2007).

The current study findings contradict those of (Aalrazek and Aida 2018), who discovered that the majority (84%) of studied nurses attended triage courses. They also contradict those of (Subrahmanyam et al., 2017), who discovered that the majority (68.4%) of studied nurses attended CNE on obstetric emergencies.

Regarding obstetric triage knowledge, the present study demonstrated improvements in all items of nurses' knowledge regarding obstetric triage post-implementation of the training compared to pre-implementation for all of the studied groups, which didn't have satisfactory knowledge about obstetric triage before the program's implementation. This finding may be because the study settings do not follow any guidelines or even allow attending programs regarding triage principles or application, which negatively affected their awareness and performance.

Also, this study funding agrees with (Hesham et al.'s 2022) study finding that there is a highly statistically significant difference between pre/post educational and training sessions where an increase in health care providers' knowledge score level from 79% pretest to 95%, known as post educational and training sessions, occurred. This training was beneficial in increasing and improving the knowledge of the health care providers related to general obstetric triage protocol application (concept, coded colors, principles, and levels of triage).

This result is in line with the study done by (Quaile, 2018), which reported that implementing the educational session, giving a pretest, and following up with the completion of a posttest improved the knowledge of the health care providers in the emergency unit.

The current study found that triage communication improved after training, as more than two-thirds of the studied nurses (66.10%) communicated more effectively after training, which is consistent with (Elmashad et al., 2020), who discovered that (74.3%) of nurses communicated effectively during triage training after simulation training implementation. The Presented study demonstrated that more than three-quarters of studied nurses that there were highly statistically significant improvements in all items of nurses' practice regarding obstetric triage assessment (P<0.001). which agree strongly with (Elmashad et al., 2020) who

revealed that (71.4%) of studied nurses post-implementation of the simulation training improved their practice of triage assessment compared to (4.3% & 2.9% respectively) pre-implementation.

The present study demonstrates that the studied nurses' practices improved throughout the training program implementation phases, as most of them didn't practice triaging before the training was implemented, particularly with respect to communication in triage, triage assessment, triage based in MFTI, and triage documentation. This deficient practice greatly improved to the point where the majority of them were practicing correctly immediately after program implementation.

Which completely agrees with (Elmashad et al., 2020), who discovered that there were highly statistically significant improvements in all items of nurses' practices regarding obstetric triage and utilization of the maternal-fetal index triage scale after simulation training implementation compared to before simulation training implementation.

This finding was also agreed with (Faheim, 2019) who stated that the studied nurses' practices improved throughout the guideline implementation phases because the majority of them (90%) did not practice satisfactorily prior to triage education regarding emergency assessment, clinical decision making, and environmental hazards, which improved to reach the majority of them (96.0% and 90%) practices satisfactorily all the triage competencies immediately post program implementation and at follow up in study conducted at three different hospitals .

Also this study funding agree with (Hesham et al., 2022) Study findings illustrated that there is a highly statistically significant difference between pre- and post-educational and training sessions, with an increase in health care providers' knowledge score levels from 79% on the pretest to 95% after these post-educational and training sessions. This training was beneficial in increasing and improving the knowledge of the health care providers related to general obstetric triage protocol application (concept, coded colors, principles, and levels of triage).

The poor performance before training in the current study might be due to their deficient knowledge, the absence of orientation for newly graduated and newly recruited nurses, a lack of job training, or their lack of continuous education. Besides the unavailability of resources and insufficient materials and equipment in most university hospitals, plus, overcrowding in university hospitals' emergency departments leads to an increase in the workload on nurses caring for such a large group of patients, which results in inappropriate nursing care. This explanation is emphasized by several studies.

Furthermore, the current study found a positive correlation between total triage knowledge and total triage practice scores. This means that nurses' knowledge reflected on nurses' performance related to the use of effective simulation obstetric triage training scenarios. This study finding was consistent with (Elmashad et al., 2020), who revealed that there was a positive correlation with a statistically significant difference between the nurses' total knowledge and total practices scores regarding obstetric triage after the implementation of the simulation obstetric triage ($r = 0.340$ and $p = 0.004$). This study's findings were consistent with those of (Abd-El-Razik and Gamal. , 2018), who discovered that proper use of obstetric triage had a positive, significant correlation with total knowledge score. Similarly,

(Al-Metyazidy et al. 2019) discovered a positive and significant statistical correlation between nurses' total knowledge and practice scores, with $r = 0.559$.

Finally, improvement of nurses' knowledge and practices regarding obstetric triage are important and serious elements that reflect on the ranking of women according to triage categories and have a direct effect on decreasing maternal and neonatal mortality and morbidity rates.

Conclusion:

Based on the present study's findings, it was concluded that:

Pre-implementation training improved total obstetric nurses' knowledge and practice of obstetric triage when compared to post-implementation training (p value 0.001). Furthermore, at 0.000 levels of statistical significance, there is a positive correlation between total knowledge and total practice scores among the studied sample pre- and post-program. The conclusion of the present study supports the hypothesis, and the aim of the study was achieved.

Recommendations:

In light of the current study's findings, it was recommended that

- To enhance nurses' practices in obstetric emergency unit's Obstetric triage training programs for obstetric nurses should be conducted on a regular basis.
- To improve knowledge levels, it's better to incorporate undergraduate curricula and ongoing educational programs about obstetric triage as well as theoretical and practical triage training for maternity nurses in hospitals.
- To devolve nurses' communication and teamwork concepts, incorporate periodic workshops about communication in emergency situations and teamwork value.
- To support working based on the triage index, give the obstetric unit an easy-to-read manual and instructional booklet on MFTI and obstetric triage to help nurses prioritize newly admitted cases based on the severity of obstetric symptoms.

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