Effect of Evidence-Based Practice Program on Internship Students' Performance at the Maternity Nursing Departments

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Abstract:

Background: The clinical internship area is the best place to build nursing student knowledge. It is crucial for nursing students' education to have the chance to translate theory into practice. Evidence-based practice is an efficient strategy to improve the quality of obstetric and maternity care. **Aim**: To investigate the effect of the Evidence-Based Practice Program on Internship Students' Performance at the Maternity Nursing Departments. **Setting:** This study was conducted in the maternity departments and delivery rooms in the following hospitals, Benha University Hospital, Ministry of Health Hospital, and Benha Teaching Hospital Qaliubiya Governorate, Egypt. **Study Design:** A quasi-experimental (one group pre-test post-test) design**. Sample size:** 156 internship student nurses. **Sample type:** Convenience sample. **Tools:** Structured interviewing questionnaire; an observational checklist**;** the standard instrument used to assess barriers that prevent internship student nurses from achieving their competent clinical training and satisfaction tool. **Results**: A statistically significant improvement between the performance of the internship students towards the first, second and third stages of childbirth as well as the care of newborns and mothers after birth before and after the implementation of the program. Also, the participants were satisfied with the evidence-based program in the delivery and maternity departments. It was observed from the present study that a positive correlation between internship students' performance in the maternity and delivery room at pre-, immediate and eight weeks post-intervention. Moreover, there is a strong positive relationship between the performance of the internship students in the delivery and maternity departments after implementing the program, their satisfaction with the program, and the barriers they encountered in the training place. **Conclusion:** The program achieved its desired results as internship nurses' students ,,clinical performance at different stages of labor in the delivery room and maternity departments will be improved after the implementation of the evidence-based practical program. **Recommendations**: The Evidence-Based program to improve the internship students' clinical performance should be accessible and persistently provided to the internship student nurses in all health settings to avoid erroneous, harmful, and ineffective clinical practices as recommended by WHO.

Keywords: Evidence-Based Practice Program, internship, students, performance, maternity departments

Introduction:

Nursing interns are bachelor's degree nursing students who start the role transition from the student stage to being professional nurses after completing the training program of the internship. The internship program supports new graduate nurses in the workplace and helps to qualify them. The transition from student to skilled nurse is a stressful experience due to the increased responsibility and accountability of the newly graduated nurse. So, the internship is a period of extensive learning, adjustment, and socialization in the workplace. During the internship time, the nurses should increase their existing knowledge and gain competence (clinical skills, knowledge, and behavior) that supports the nursing practice of the clinical

situation and patient sectors in which they are expected to perform on it (**Aldeeb et al., 2016).**

In Egypt, the nursing and midwifery program consists of theoretical and clinical content. Both contents enhance students' knowledge and their clinical practice (**Azizeh et al., 2013)**. Concerning maternity care, theoretical courses introduce the study of the female and male reproductive systems, maternal and child health nursing related to the reproductive systems, and care of mother and baby from fertilization to the postnatal period as well as discharge planning and home care. The clinical course supports students with practical experiences to carry out principles foundations and skills needed to provide essential health care for pregnant women and their newborns. The practical experience is structured on general skills using the elements of the nursing process. Thereby, this program supports the students with efficient theoretical and practical nursing education toward optimizing the quality of women's and neonate's healthcare (**Mohammadi and Mohammadi, 2014)**

The clinical internship area is the best place to build nursing student knowledge. It is crucial for nursing students' education to have the chance to translate theory into practice (**Mažionienė et al., 2018**). The internship phase is considered an exciting time for nursing students; in another vein, it creates significant challenges for nursing students on several levels. Among these challenges is the need to gain and demonstrate clinical and communication skills. Furthermore, raising the nursing students' satisfaction with the clinical portion of their education (**Al-Mahmoud et al., 2013).**

The performance of nursing students with their clinical training placement is very crucial. Nursing faculty must assess students' performance with their clinical expertise to reinforce their educational achievement (**Papathanasiou et al., 2014**). The training in clinical placements allows students to convert theoretical knowledge into skills to provide quality care for patients (**Nepal et al., 2016).** The clinical training setting compromises nursing educators and health teams from the viewpoint of nursing students (**Allan et al., 2011**). The nurse teachers' roles in nursing education are critical, and nurses perform an essential function within the framework of the training process for educated nursing students ". Poor clinical learning settings and supervision hold a direct influence on nursing learners' education and perceptions of the nursing profession (**Fernández-Garcia et al., 2019**). The training of qualified nurses should be improved to minimize the shortage of theoretical and practical knowledge in educational and practical environments. Clinical training is considered both a significant component of nursing education and the heart of the nursing curriculum (**Moonaghi et al., 2015).**

Performance is the incorporation of skills which is the capability and know-how to perform a commission or a work; knowledge which is the efficiency of recognizing the commission or work; and experience, which is the period performing the functions or work (**Gacel-Avila, 2011**). The validation of the performance is fulfilled by complementing some practical, oral or written tests, performing tiresome professional and technical simulations and demonstrating the achieved knowledge by applying live practical situations. So, competency demands convenient practice (**Hansen and Bratt, 2015**). In the evidence-based program, the evaluation can be performed to assess or to make a comparison between one or several competencies. For carrying out this evaluation, it is needful to design precise tools with specific criteria to determine and evaluate the achievement of the competency level needed for the task in the internship procedure (**Ramis et al., 2019**).

Evidence-based performance (EBP) is a systematic method for making the best evaluation based on available scientific evidence from studies and clinical trials, including patient expectations and beliefs in addition to patient needs and interests, to obtain an appropriate clinical decision that affects the provision of care. Suitable for patients in specific circumstances (Melnyk et al., 2012). And we find that evidence-based practice has become the proper framework and the best-recognized model of care. Transferring research evidence to clinical practice is easy. In addition, EBP is the optimal problem-solving approach to

providing safe patient care (**Shifaza et al., 2014**).

Evidence-based clinical decision-making in nursing, midwifery, and care coordination is the surest step toward delivering high-quality healthcare. Therefore, it is paramount to support and strengthen evidence-based practice (EBP) and apply the best available evidence to obtain quality health care in all aspects. Nursing and midwifery will remain central to achieving EBP in healthcare settings, especially in standardizing healthcare practices and aligning them with evidence in the center of healthcare delivery (**Jun et al., 2016**).

Significance of the study:

A university professor's concern is internship student nurses' performance. Furthermore, to maximize internship student nurse performance and minimize the barriers which consequently has reflected in a healthy and positive training environment. The nursing students' performance is counted as a significant factor of such assessment, contributing to any potential rectification to enhance the learning activities and accomplishment within clinical settings. The experiences of female nursing students in clinical practices provide a clear vision for faculty members in nursing colleges to develop their strategies in teaching nursing curricula to contribute to the clinical training of nursing students effectively. Therefore, students should be placed in a supportive, high-quality educational environment equipped in a way that suits the training and development of competencies and is considered a guide for future career decision-making (**Mažionienė et al., 2018**). As a result, professional development and continuous performance assessment are essential components of training new nurses. Evidence-based practice is an efficient strategy to improve obstetric care quality. Now, the concern of the world is that the limited evidence-based interventions and practices in birth and labor are still under standard practices. The world health organization (WHO) has confirmed that mischievous and incompetent clinical practices should be changed to evidence-based clinical ones. Unluckily, in many developing countries, some mischievous and incompetent clinical practices are used routinely during delivery and labor care (**Karolinski et al., 2009**). No previous study was conducted in Egypt regarding the evidence-based program that can enhance the internship students' clinical performance in the delivery room and maternity departments. Furthermore, the present study is based on the recommendations of a previous study performed in Egypt, which proposed the importance of periodically designing and implementing programs to enhance nursing achievement in the delivery room and maternity departments (**Soliman et al., 2020)**, and following the recommendation of WHO which emphasize to implement the evidence-based clinical practice in all clinical setting (**WHO, 2018**)

Aim of the study: -

The study aims to investigate effect of evidence-based practice program on internship students' performance at the maternity nursing departments.

Research Hypothesis

Internship nurses' students ,clinical performance at different stages of labor in the delivery room and maternity departments will be improved after the implementation of the evidence-based practical program:

A- Performance in the maternity and delivery room regarding the first stage of labor.

B- Performance in the maternity and delivery room regarding the second and third stages of labor.

C- Performance in the maternity and delivery room regarding the area of newborns and mothers after birth.

D- Comply with infection prevention measures in the maternity and delivery room.

Study variables: -

Independent variables

1) Socio-demographic Variable: Age, marital status, and the hospital for training.

2) The studied sample's barriers: Barriers related to internship students, clinical education instructors, nurses in the training ward, Management, structures, and facilities of the clinical environment.

Dependent variable

1) Internship Students' Performance: The students care for women throughout labor and birth, the first stage of labor, the second and third stages of labor, and care of the newborn and the woman after birth.

Operational definitions: -

Evidence-Based Practice (EBP): This is a multidisciplinary approach used in making clinical decisions that incorporate the best available evidence, care, client preferences and values, and the professional judgment of health practitioners (**World Health Organization 2017**).

Student performance is the student's skills, knowledge and attitudes applied to real problems and based on a specific set of criteria after their specific level of training in the clinical area **(Rojo et al., 2020**).

Internship students:

Maternity Nursing Departments:

Satisfaction: The intern nursing students feel comfortable sensation, fulfilment and gratification from the evidence-based program and gain their educational needs **(Ashrafalsadat, 2014; Tawiye et al., 2021)**

Material and methods: -

Study design

A quasi-experimental (one group pre-test/ post-test) design was utilized.

Settings

This study was conducted in the maternity departments and delivery rooms in the following hospital, Benha University Hospital, Ministry of Health Hospital, and Benha Teaching Hospital Qaliubiya Governorate.

Subjects and Sample: -

The sample participants are 156 female students in the internship period with a bachelor's degree in nursing in the academic year 2021/ 2022. This convenience sample was collected from the following places: Benha University Hospital, Ministry of Health Hospital, and Benha Teaching Hospital Qaliubiya Governorate.

Tools of data collection:

Four tools were used by the researcher after reviewing advanced national and international literature as the following:

First Tool: Structured interviewing questionnaire which included two parts:

- **The first part:** assessed the internship student nurse demographic variable as the name, age, and area of residence.

- **The second part: Students' knowledge assessment questionnaire was developed based on a comprehensive review of relevant literature (WHO, 2019; WHO, 2018 and Guedes, 2010).** It assessed the student's knowledge and practice (pre- and post-their training at the Maternity Nursing Departments). For knowledge: - A binary scoring system is used for questions, grading answers with (1) for the correct answer, and (0) for an incorrect answer. The items of questions are calculated, and the number of correct answers is divided by all items of questions and multiplied by 100 to get the percentage. knowledge of internship student nurses was assessed regarding intrapartum care. The following elements were assessed and scored: (1) First stage of labor (concept of the first stage of labor, duration of the first stage, a manifestation of the first stage of labor, the onset of the latent first stage, the duration of the latent first stage, criteria of the prolonged latent first stage, the criteria for the progress of active first stage of labor, the admission policy of labor ward, Epidural analgesia is used for labor pain relief for healthy women according to the pregnant women's

needs, Opioid analgesics parenterally, such as pethidine, is used for labor pain relief for healthy women according to the pregnant women's needs). The second stage of labor (concept of second and third stages of labor, duration of the second and third stage of labor, the manifestation of the second and third stage of labor, progress of second and third stage of labor, delayed of the second and third stages of labor, the position is recommended during birth for women and the pushing technique). The area of newborns and mothers after birth (the recommended observation in the first two hours after birth, physiological care, management of Rh D negative B G, the postpartum routine maternal assessment and discharge planning). Moreover, infection prevention control.

-Second tool: First part (**An observational checklist:** it developed **by Swindle et al., (2021)** in the English language to assess the internship students' practical performance while providing care for the women every thirteen minutes in each stage of labor and postpartum, including immediate care of the newborn. The practice was evaluated through evidence -based procedures recommended by WHO, 2018 using an observational checklist for the following procedures;(Admission checklist; respectful maternal care checklist; hand-hygiene practices checklist; cardiotocography (CTG) assessment checklist; fetal well-being assessment checklist; Relaxation techniques for pain management; pain management manual technique; perineal trauma prevention technique; pushing technique assessment checklist; birth position assessment checklist; vaginal examination; abdominal uterine tonus assessment postpartum; postpartum assessment checklist of vaginal bleeding, fundal height, uterine contractions. Vital signs as routine starting immediately after birth and during the first twenty-four hours postpartum. breast-feeding technique; Urine output during the first six hours; safe childbirth checklist to assess mother and newborn at discharge. The scoring system for an observational checklist was two scores for correct practical achievement and one score for incorrect practical achievement. The correct score for practical performance was ≥60%, while the incorrect score for practical performance was <60%.

- **Second part: attitude assessment tool (Rospendowiski et al., 2014)**: - Using a Likert-type scale: the students' attitudes were evaluated through 4 pairs of questions related to the perception of barriers and the judgement attitudes related to the value of the Evidence-Based Practice program: the arithmetic means of all answers in a Likert-type scale items were calculated; the higher the score, the more positive attitude regarding evidence-based program.

-**Third tool**: **The barrier assessment tool**: - the standard instrument used to assess barriers that prevent implementation of evidence-based practice programs (**WHO, 2018**). The number of items in this instrument was 8 items. A panel of 5 nursing experts assessed the validity of the instrument. Moreover, the reliability of the instrument was assessed by Cronbach alpha 0.85.

-Fourth tool: - " **Satisfaction tool,** developed by **Balay-odao et al. (2019) and Mohammed (2019)** " to assess the students' nurses' satisfaction regarding the program sessions according to internship students‟ responses as satisfied and dissatisfied.

-Content validations of the tools and Reliability:

All tools used in collecting research data were reviewed, prepared, and developed by the researchers, and then they were sent to five university professors who are specialized experts. The comments and modifications of the specialists were included, and they were considered and applied to the research. Training sessions were held for internship students according to the learning requirements they needed and according to the appropriate times for their work in the department. Moreover, the reliability of the instrument was assessed by Cronbach alpha.

Pilot study:

A Pilot study was carried out on 10% of the student nurses to test applicability, feasibility, and objectivity and to estimate the needed time to fill the data collection sheets,

and then necessary modifications were done according to the result of the pilot study.

Fieldwork:

- The educational program sessions were structured and prepared according to the needs of the internship nurse in the maternity ward. The researchers divided the sample into 20 groups, each from 7 to 8 internship students nursing. The intervention of the program sessions was implemented through 12 sessions for each group. The program sessions consisted of four sessions per week on four different days, for one hour and a half to two hours per session. The intervention program sessions were implemented through two sessions held for knowledge learning and 10 practical parts. Each practical session comprised an initial half an hour for educational lecture and student-based free discussion and the remaining hour in which students were trained to perform the practice.

- The program venue was prepared for the trainees so that it was well-ventilated, adequate for the number of attendees, well-lit, and with a suitable space between attendees. In addition to the availability of practical and theoretical teaching methods such as Flip Chart, PowerPoint, video, YouTube, and illustrative images, in addition to the presence of posters and teaching models demonstrations.

- The study was implemented through three phases: preparation, implementation, and evaluation.

-Phase one (preparatory phase):

-The researcher reviewed the current advanced national and international literature related to the study topic, and red tools for data collection.

-In the preparation stage, various teaching and clarification tools were equipped, such as presentation devices and PowerPoint, in addition to preparing assessment tools according to each stage of childbirth, postpartum period, follow-up of the mother and newborn, and an observational form for each stage.

- The researchers and department supervisors met to inspect the place designated. for holding the program sessions and determining its suitability in terms of providing teaching and evaluation components. The sessions were planned according to the needs of the internship students and in a way that did not conflict with their training times in the departments.

-All tools of data collection were utilized pre and post their training in the delivery and maternity departments except satisfaction tools and barriers tools were implemented post-training which were utilized post their training in the maternity department only and finally implemented the study.

- A guide booklet for the program has been prepared, which contains explanatory instructions to cover the theoretical and practical aspects and contains a measurement tool in addition to checklist performance.

-Phase two (implementation phase):

-First, the researchers interviewed from 7 to 8 intern nurse students per day according to their duties in the maternity ward in the training hospital. The internship students were received, the program's steps were explained to them, and approval was taken from them (The duration of each interview was 30 minutes).

- The sessions for the theoretical part include (The opening session , registration for attendance, time of welcome and introduction, pre-test, and the objectives of the session were listed, and then the items of the theoretical part such as; (1) First stage of labor (concept of the first stage of labor, duration of the first stage, a manifestation of the first stage of labor, the onset of the latent first stage, the duration of the latent first stage, criteria of the prolonged latent first stage, the criteria for the progress of active first stage of labor, the admission policy of labor ward, Epidural analgesia is used for labor pain relief for healthy women according to the pregnant women's needs, Opioid analgesics parenterally, such as pethidine, is used for labor pain relief for healthy women according to the pregnant women's needs). The second stage of labor (concept of second and third stages of labor, duration of the second and third stage of labor, the manifestation of the second and third stage of labor, progress of second and third

stage of labor, delayed of the second and third stages of labor, the position is recommended during birth for women and the pushing technique). The area of newborns and mothers after birth (the recommended observation in the first two hours after birth, physiological care, management of Rh D negative B G, the postpartum routine maternal assessment and discharge planning). Moreover, infection prevention control.

-The researchers explained to the internship students the time of the second test immediately after the program and another test after eight weeks, which is the training period for the students in the delivery room and maternity unit (the training period for the intern students in the department of childbirth and maternity, according to the training plan, is two months).

- The guide booklet for the program has been disseminated to the students according to their numbers.

-**Secondary**, the student's practical performance was assessed using an observational checklist, while they were carrying out the procedure for the admitted women to the maternity department (Duration of each observation before and after conducting the session was 20 minutes) according to a standardized checklist.

- Each day, three student nurses' practical performance was assessed from 8 Am to 8 p.m.

- After the completion of the assessment of nurses' practical performance. The evidence-based practice sessions were implemented.

- The evidence-based practice includes:- Admission checklist; respectful maternal care checklist; hand-hygiene practices checklist; cardiotocography (CTG) assessment checklist; fetal well-being assessment checklist; Relaxation techniques for pain management; pain management manual technique; perineal trauma prevention technique; pushing technique assessment checklist; birth position assessment checklist; vaginal examination; abdominal uterine tonus assessment postpartum. postpartum assessment checklist of vaginal bleeding, fundal height, uterine contractions. Vital signs as routine starting immediately after birth and during the first twenty-four hours postpartum. breast-feeding technique; Urine output during the first six hours; safe childbirth checklist to assess mother and newborn at discharge.

- Methods of teaching involved Flip Chart, PowerPoint, video, YouTube, illustrative images, brainstorming and bedside teaching in addition to the presence of posters and teaching model demonstrations and role play.

- The researchers gave about 20 minutes to the participants at the end of each session to ask questions and inquiries regarding the content of the session or previous sessions, and the participants‟ questions were answered and clarified according to the typical content of the session.

-Phase three (evaluation Phase):

-At this stage, the evaluation was carried out to compare and measure the effect of the evidence-based performance of students pre- and after-implementing the program by using the designed tools with clear criteria to evaluate, justify, judge, or specify the performance of the internship nursing students.

- The student's nurse performance was assessed three times on three patients and then the mean was obtained for final performance.

-The effectiveness of the teaching and assessment methods used in the program was evaluated.

-Students' satisfaction with the program was measured as well as the barrier they faced during training.

-The students were allowed to highlight the barriers they encountered during their training in the delivery and maternity departments.

-The researchers discussed with the department heads the barriers the internship students encountered during their training to take the required actions to overcome them.

Ethical Consideration:

- The ethical approval was obtained from the research ethics committee of the faculty of nursing port said university with code number NUR(9/7/2023)(27).

- An official letter from the Dean of the Faculty of Nursing Benha university will be sent to the selected area of the study.

- The researcher clarified the aim of the study to each internship student nurse who participated in the study.

- Written consent was obtained from each internship student nurse to participate in the study.

- A letter of approval was sent to the director of the hospital including the aim, the setting, and the date of the study.

- The study tools were ensuring that the study didn't touch the participant's dignity, culture, traditional and religious aspects, and human rights.

The Statistical analysis: -

- The statistical package SPSS version 23 was used to analyze the statistical data. The data was presented in the form of numbers and percentages. Pearson's correlation coefficient was used to calculate the association between the variables. The significance level was measured on a p-value of < 0.5%. The Chi-square and p-value were used to show the correlation between the factors**.**

Results:

Characteristics of the sample:

- 156 Female internship students participated in the study. The mean age of the study group was 25.01 ± 2.40 years, ranging between 23 and 28 years. Concerning their marital status, most of the study group were single (n = 152, 97.4%). The number distribution of the study group according to their hospital for training, is 61 from the Ministry Health hospital, 45 from Benha University Hospital, and 50 from Benha Teaching Hospital.

The effect of the program: -

Table 2 displays a statistically significant difference between pre, post, and eight weeks post-intervention of the program session in the maternity and delivery room pre and posts their program regarding the first stage of labor. Furthermore, there is an evident improvement in performance (knowledge and practice) among the studied sample regarding the first stage of labor post-implementation of the program sessions compared to pre-intervention. The present study results reveal that there is a highly statistically significant difference at (P= < 0.01) between pre, immediate, and eight weeks post-implementation of the program sessions.

Regarding the second and third stages of labor, Table 3 reveals a statistically significant difference between pre, immediate post, and eight weeks post-intervention of the program session in the maternity and delivery room pre and post their program regarding the second and third stage of labor. Furthermore, there is an evident improvement in performance(knowledge and practice) among the studied sample regarding the second and third stages of labor post-implementation of the program sessions compared to pre-intervention. The present study results reveal a statistically significant difference at (P= < 0.01) between pre, immediate, and eight weeks post-implementation of the program sessions.

Table 4 displays a statistically significant difference between pre, post, and eight weeks post-intervention of the program session in the maternity and delivery room pre and post their program regarding the care of newborns and mothers after birth. Over and above, there is an evident improvement in performance among the studied sample regarding the care of newborns and mothers after birth post-implementation of the program sessions compared to pre-intervention. The present study results reveal that there is a highly statistically significant difference at (P= < 0.01) between pre, immediate, and eight weeks post-implementation of the program sessions.

Figure 1. shows the overall studied sample attitude regarding the implementation of the evidence-based program at the maternity nursing departments as 88% of them have a positive attitude regarding the program eight weeks post-implementation p=0.000**.

Table (5) shows the statistically significant difference between pre-, post, and eight weeks post-intervention of the program session in the maternity and delivery room pre- and post their program according to the studied sample regarding compline with infection prevention measures in the maternity and delivery room pre and post their program. Also, figure 2, shows the overall studied sample complies with infection prevention measures in the maternity and delivery room pre- and post-program as about 90% of the studied sample complies with infection prevention measures in the maternity and delivery room 8 weeks post-program.

Barriers faced by female students during their training in delivery and maternity departments.

As for the barriers that prevent the studied sample from implementing the evidence-based practice program in the clinical area, Shortage of human resources with the required experience and skills, the inability of healthcare workers to realize the value of evidence-based interventions and change from traditional practice to evidence-based practice, Shortage of infrastructure and requirements, supplies, equipment, and medicines to implement the evidence-based program. Moreover, the shortage of health information technology to monitor and document evidence-based health practices (Table, 6).

The satisfaction of internship students regarding the educational program

Figure 3 illustrates that (91 %) of the studied sample is satisfied with the program at eight weeks post-implementation. Table 8 reveals a positive correlation between barriers and satisfaction for internship students and internship post-program performance in the maternity and delivery room.

Table (1) Socio-demographic Variable of the studied internship student nurses (156)

Socio-demographic Variable		Number of students (156)	
Age			
Mean±SD			
25.01 ± 2.40 years			
Marital status: -		**No**	**%**
Single		152	97.4
Married		**4**	**2.6**
Hospital for training: -			
1-	The Ministry Health hospital	**61**	**39.1**
2-	Benha university hospital	**45**	**28.9**
3-	Benha Teaching Hospital	**50**	**32.0**

Table (2): Frequency distribution according to the studied sample's performance in the maternity and delivery room pre and post their program regarding the first stage of labor. (N=156).

Items	Pre-program intervention		Immediate Post-program intervention		Eight weeks post-program intervention		Significant	
	N	%	N	%	N	%	X2	p-value
Knowledge:								
Concept of the first stage of labor								
Correct	56	36	128	82	116	74	27.80	0.000**
Incorrect	100	64	28	18	40	26		
Duration of the first stage of labor								
Correct	60	38	140	90	128	82	29.50	0.000**
Incorrect	96	62	16	10	28	18		
Manifestation of the first stage of labor								
Correct	24	15	108	69	96	78	24.30	0.002**
Incorrect	132	85	48	31	60	38		
The Onset of the latent first stage								
Correct	12	15	54	69	48	78	7.220	P<0.0001*
Incorrect	66	85	24	31	30	38		
The duration of the latent first stage								
Correct	18	23	56	74	50	64	33.27	0.000**
Incorrect	60	77	20	26	28	36		
Criteria of Prolonged Latent First Stage								
Correct	12	15	54	69	48	78	7.220	P<0.0001*
Incorrect	66	85	24	31	30	38		
The onset of the active first stage of labor								
Correct	12	15	54	69	48	78	7.220	P<0.0001*
Incorrect	66	85	24	31	30	38		
The criteria for the progress of the active first stage of labor								
Correct	24	15	108	69	96	78	7.220	P<0.0001*
Incorrect	132	85	48	31	60	38		
The admission policy of labor ward								
Correct	60	38	132	85	124	79	28.47	0.000**
Incorrect	96	62	24	15	32	21		
Epidural analgesia is used for labor pain relief for healthy women according to the pregnant women's needs.								
Correct	15	10	101	65	133	85	2.220	P<0.0001*
Incorrect	141	90	55	35	23	15		
Opioid analgesics parenterally, such as pethidine, is used for labor pain relief for healthy women according to the pregnant women's needs.								
Correct	44	28	112	72	104	67	25.70	0.001**
Incorrect	112	72	44	28	52	33		
Total knowledge:								
Correct	15	10	101	65	133	85	2.220	P<0.0001*
Incorrect	141	90	55	35	23	15		
Practice:								
Provide respectful maternity care for all pregnant women.								
Correct	60	38	132	85	124	79	28.47	0.000**
Incorrect	96	62	24	15	32	21		
Maintain the woman's privacy, dignity, and confidentiality								
Correct	60	38	140	90	128	82	29.50	0.000**
Incorrect	96	62	16	10	28	18		
Communicate with mothers using simple and culturally acceptable.								
Correct	24	15	108	69	96	78	24.01	0.002**
Incorrect	132	85	48	31	60	38		
The continuity-based care								
Correct	44	28	112	72	104	67	25.70	0.001**
Incorrect	112	72	44	28	52	33		
Inform women about the recommended standard duration of the first stage of labor								
Correct	40	26	124	79	56	67	33.27	0.000**
Incorrect	116	74	32	21	52	33		
The fetal wellbeing was assessed on labor admission of pregnant women by a Doppler ultrasound device or fetal sonocaid								
Correct	24	15	108	69	96	78	24.30	0.002**

Incorrect	132	85	48	31	60	38		
The vaginal examination is done as a routine assessment every four hours in the active first stage of labor in low-risk women								
Correct	40	26	124	79	56	67		
Incorrect	116	74	32	21	52	33	33.27	0.000**
The procedures were explained to all pregnant women before the examination								
Correct	56	36	128	82	116	74		
Incorrect	100	64	28	18	40	26	27.80	0.000**
The vaginal examination was accomplished as a routine assessment at intervals of four hours of the active first stage of labor in low-risk women								
Correct	40	26	124	79	56	67		
Incorrect	116	74	32	21	52	33	33.27	0.000**
The fetal heart rate is heard intermittently for healthy pregnant women during labor								
Correct	18	23	54	69	48	62	26.68	0.001**
Incorrect	120	77	24	31	30	38		
Relaxation techniques, such as breathing, progressive muscle relaxation, and mindfulness were done for healthy women during labor as pain relief.								
Correct	32	21	56	62	80	51	20.14	0.002**
Incorrect	124	79	60	38	67	49		
The low-risk pregnant women were encouraged to walk early and adopt an upright position during labor.								
Correct	44	28	112	82	116	74	25.30	0.000**
Incorrect	112	72	28	18	40	26		
Manual techniques, such as the application of warm packs or massage, were done for healthy pregnant women who needed pain relief during labor, as a woman's preferences.								
Correct	44	28	112	82	116	74	25.30	0.000**
Incorrect	112	72	28	18	40	26		
Oral fluid and food intake were given to low-risk pregnant women during labor.								
Correct	24	15	108	69	96	78	24.01	0.002**
Incorrect	132	85	48	31	60	38		
Total Practice: -								
Correct	42	27	100	64	141	90	5.013	<0.0001*
Incorrect	114	73	56	36	15	10		

Table (3): Frequency distribution according to the studied sample's performance in the maternity and delivery room pre- and post-program regarding the second and third stages of labor. (N=156).

Items	Pre-intervention		Immediate Post-intervention		Eight weeks post-intervention		Significant	
	N	%	N	%	N	%	X2	p-value
Knowledge: -								
Concept of Second and third Stages of labor								
Correct	36	23	108	69	96	62	33.22	0.000**
Incorrect	120	77	48	31	60	38		
Duration of the second and third stage of labor								
Correct	24	15	104	67	84	54	19.04	0.003**
Incorrect	132	85	52	33	72	46		
Manifestation of the second and third stage of labor								
Correct	16	10	96	62	88	56	23.17	0.001**
Incorrect	140	90	60	38	68	44		
Progress of second and third stage of labor								
Correct	12	15	54	69	48	78	7.220	P<0.0001*
Incorrect	66	85	24	31	30	38		
Delayed of the second and third stages of labor								
Correct	24	15	108	69	96	78	7.220	P<0.0001*
Incorrect	132	85	48	31	60	38		
The upright position is recommended during birth for women.								
Correct	44	28	112	82	116	74	25.30	0.000**
Incorrect	112	72	28	18	40	26		
The pushing can be delayed for pregnant women who use epidural analgesics during labor after full dilation of the cervix or after the sensory urge to bear down returns again to the women.								
Correct	44	28	112	82	116	74	25.30	0.000**
Incorrect	112	72	28	18	40	26		
Total knowledge								
Correct	24	15	108	69	96	78	24.30	0.002**
Incorrect	132	85	48	31	60	38		
Practice: -								
The women were informed about the recommended duration of the second labor stage, which varies from woman to woman.								
Correct	56	36	128	82	116	74	27.80	0.000**
Incorrect	100	64	28	18	40	26		
The women were encouraged and supported in the expulsive phase of the second stage of labor to follow their urge to push								
Done	60	38	132	85	124	79	28.47	0.000**
Not done	96	62	24	15	32	21		
The techniques to decrease perineal trauma and assist spontaneous birth (warm compress, perineal massage, and a "hands-on" guarding of the perineum) were done in women's second stage of labor.								
Correct	60	38	140	90	128	82	29.50	0.000**
Incorrect	96	62	16	10	28	18		
the uterotonics for the prevention of postpartum hemorrhage (PPH) during the third stage of labor were used for women as a WHO recommendation for all births								
Correct	24	15	108	69	96	78	24.01	0.002**
Incorrect	132	85	48	31	60	38		
Umbilical cord clamping was delayed (1 minute after birth) to improve fetal and maternal health and nutrition outcomes								
Correct	44	28	112	72	104	67	25.70	0.001**
Incorrect	112	72	44	28	52	33		
Controlled cord traction (CCT) was done								
Correct	40	26	124	79	56	67	33.27	0.000**
Incorrect	116	74	32	21	52	33		
Total practice: -								
Correct	60	38	140	90	128	82	29.50	0.000**
Incorrect	96	62	16	10	28	18		

Table (4): Frequency distribution according to the studied sample's performance pre and post-program in the maternity and delivery room regarding the area of newborns and mothers after birth. (N=156).

Items	Pre-intervention		Immediate Post-intervention		Eight weeks post-intervention		Significant	
	N	%	N	%	N	%	X2	p-value
Knowledge:								
The recommended observation in the first two hours after birth								
Correct	18	23	54	69	48	62	26.68	0.001**
Incorrect	120	77	24	31	30	38		
The recommended observation after two hours of birth								
Correct	12	15	54	69	48	78	7.220	P<0.0001*
Incorrect	66	85	24	31	30	38		
Physiological care								
Correct	24	15	108	69	96	78	7.220	P<0.0001*
Incorrect	132	85	48	31	60	38		
Management of Rh D negative B G								
Correct	60	38	140	90	128	82		
Incorrect	96	62	16	10	28	18	29.50	0.000**
The postpartum routine maternal assessment.								
Correct	60	38	132	85	124	79		
Incorrect	96	62	24	15	32	21	28.47	0.000**
Discharge planning: -								
Correct	40	26	124	79	56	67		
Incorrect	116	74	32	21	52	33	33.27	0.000**
Total knowledge: -								
Correct	60	38	132	85	124	79		
Incorrect	96	62	24	15	32	21	28.47	0.000**
Practice: -								
The mothers were encouraged to keep their newborns in skin-to-skin contact (SSC) during the first hour after birth to promote breastfeeding and avoid hypothermia								
Correct	56	36	128	82	116	74		
Incorrect	100	64	28	18	40	26	27.80	0.000**
The women were encouraged to put their babies in the breast as soon as possible after birth when they were clinically stable								
correct	60	38	132	85	124	79		
In correct	96	62	24	15	32	21	28.47	0.000**
All newborns were given 1 mg of vitamin K intramuscularly after birth								
Correct	60	38	140	90	128	82		
Incorrect	96	62	16	10	28	18	29.50	0.000**
All newborns were given 1 mg of vitamin K intramuscularly after birth.								
Correct	24	15	108	69	96	78	24.01	0.002**
Incorrect	132	85	48	31	60	38		
Abdominal uterine tonus assessment was done post-partum for all women for early identification of uterine atony.								
Correct	44	28	112	72	104	67		
Incorrect	112	72	44	28	52	33	25.70	0.001**
The vaginal bleeding, fundal high, uterine contraction, temperature and heart rate (pulse) were assessed routinely for all women from the first hour after birth during the first 24 hours.								
Correct	40	26	124	79	56	67		
Incorrect	116	74	32	21	52	33	33.27	0.000**
The blood pressure was measured for all women after birth.								
Correct	16	10	96	62	88	56	23.17	0.001**
Incorrect	140	90	60	38	68	44		
The urine void was documented within six hours for all women post-partum.								
Correct	32	21	56	62	80	51	20.14	0.002**
Incorrect	124	79	60	38	67	49		
The discharge instructions were provided for all women post-partum.								
Correct	40	26	116	74	89	69	22.60	0.002**
Incorrect	116	74	40	26	48	31		
Total practice: -								
Correct	60	38	132	85	124	79		
Incorrect	96	62	24	15	32	21	28.47	0.000**

Figure 1. The overall studied sample attitude regarding the implementation of the evidence-based program at the Maternity Nursing Departments (N=156).

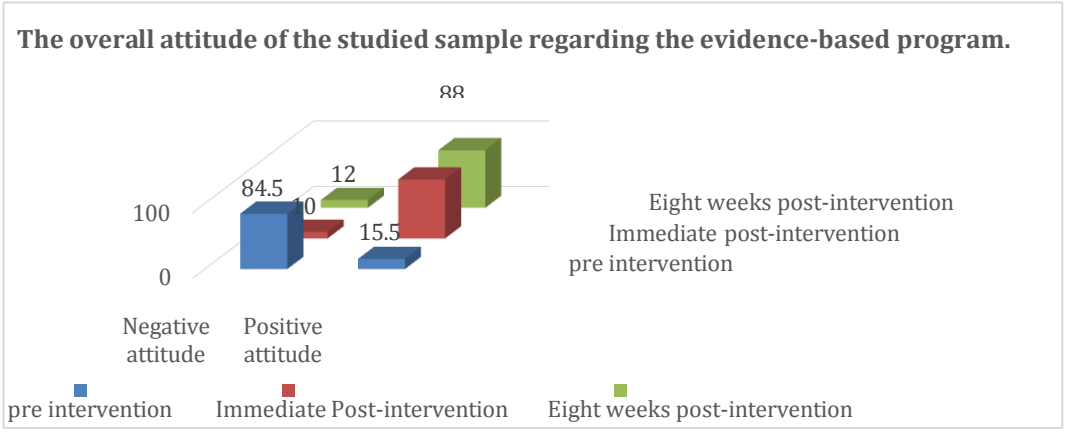

Table (5): Frequency distribution according to the studied samples regarding compline with infection prevention measures in the maternity and delivery room pre and post their program (N=156)

Items	Pre-intervention		Immediate Post-intervention		Eight weeks post-intervention		Significant	
	N	%	N	%	N	%	X2	p-value
Prevention measures during labor and delivery								
Nurses comply with washing hands.								
Correct	44	28	112	72	104	67		
Incorrect	112	72	44	28	52	33	25.70	0.001**
Use protective equipment such as gowns, gloves, and fluid resistance face mask masks apron.								
Correct	40	26	124	79	56	67		
Incorrect	116	74	32	21	52	33	33.27	0.000**
Using precaution in handling and disposable scalpels, needles, devices, and other Sharpe instruments or clinical waste.								
Correct	24	15	108	69	96	78		
Incorrect	132	85	48	31	60	38	24.30	0.002**
Proper retreatment of equipment and instruments								
Correct	24	15	104	67	84	54		
Incorrect	132	85	52	33	72	46	19.04	0.003**
Proper saving of supportive services such as food services and laundry								
Correct	24	15	108	69	96	78		
Incorrect	132	85	48	31	60	38	24.30	0.002**
Gloves were changed and hands were decontaminated between multiple procedures.								
Correct	40	26	124	79	56	67		
Incorrect	116	74	32	21	52	33	22.60	0.002**
The woman requiring additional precautions was kept in a single room with her equipment								
Correct	44	28	112	72	104	67		
Incorrect	112	72	44	28	52	33	25.70	0.001**
The labor room was cleaned after every delivery								
Correct	16	10	92	59	80	51		
Incorrect	140	90	64	41	76	49	30.18	0.000**
Nurses used aprons and gloves while handling infected linen and waste.								
Correct	56	36	128	82	116	74		
Incorrect	100	64	28	18	40	26	27.80	0.000**
Facilities of Linen storage and supplies were adequate.								
Correct	24	15	104	67	84	54		
Incorrect	132	85	52	33	72	46	19.04	0.003**
A set procedure for infection control was available.								
Correct	40	26	124	79	56	67		
Incorrect	116	74	32	21	52	33	22.60	0.002**
The wastes were collected frequently after each labor								
Correct	16	10	92	59	80	51		
Incorrect	140	90	64	41	76	49	30.18	0.000**
Lids and plastic bags were used in the labor room bins.								
Correct	24	15	108	69	96	78		
Incorrect	132	85	48	31	60	38	24.30	0.002**
Prevention measures during a vaginal examination.								
Worn disposable gloves for routine vaginal examinations when the membranes are intact								
Correct	16	10	92	59	80	51		
Incorrect	140	90	64	41	76	49	30.18	0.000**
Worn Sterile gloves for vaginal examination where is -rupture membranes or risk for chorioamnionitis.								
Correct	40	26	124	79	56	67		
Incorrect	116	74	32	21	52	33	22.60	0.002**
Genital tract cleaning is done before vaginal examinations or birth only when was obvious purulent discharge								
Correct	56	36	128	82	116	74		
Incorrect	100	64	28	18	40	26	27.80	0.000**
Total score								
Correct	60	38	128	82	140	90		
Incorrect	96	62	28	18	16	10	29.50	0.000**

Figure 2. The overall studied sample complies with infection prevention measures in the maternity and delivery room pre and post-program (156).

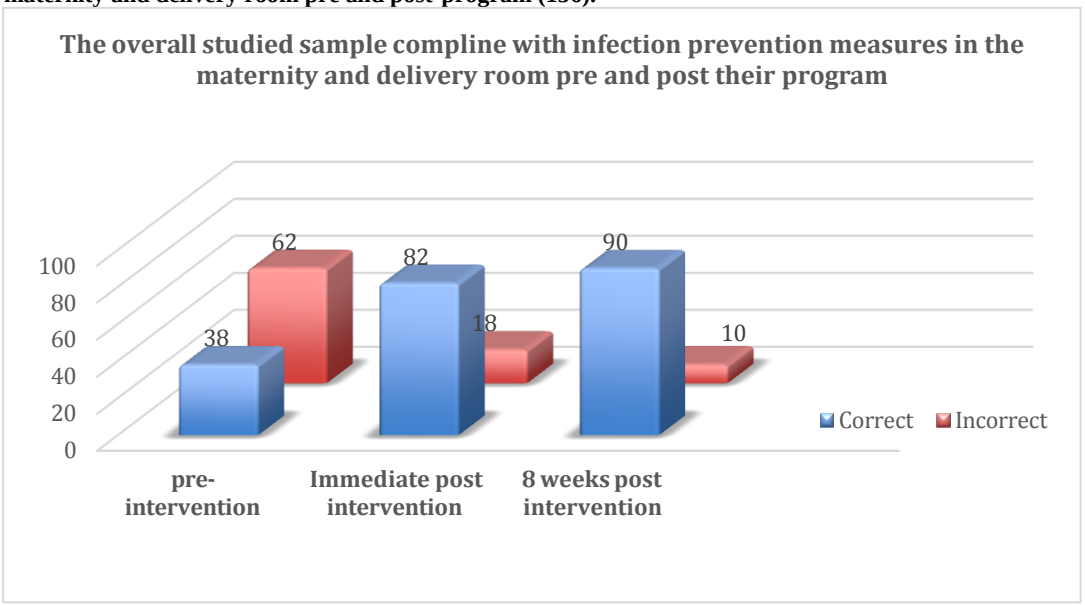

Table (6): The barriers that prevent the studied sample from implementing the evidence-based practice in the clinical area. (n=156)

Items	Mean±SD
- Shortage of human resources with the required experience and skills to carry out, support and supervision recommended evidence-based practices.	30.34 ± 5.81
-The inability of healthcare workers to realize the value of evidence-based interventions.	13.22± 2.10
- The healthcare workers are resistant to the change from traditional practice to evidence-based practice.	13.48± 2.33
-Shortage of infrastructure to carry out evidence-based interventions.	2 6.94± 4.27
- Shortage of proper space for carrying out non-pharmacological pain management.	31.78± 5.22
- The shortage of main requirements, supplies, equipment, and medicines to implement the evidence-based program e.g., Doppler ultrasound machines and electronic fetal monitoring.	13.22± 2.10
-The shortage of effective care pathways and referral systems for women who needed extra care.	30.34 ± 5.81
-The shortage of health information technology to monitor and document evidence-based health practices such as the patient records and registers system.	2 6.94± 4.27

Table 7. Frequency distribution according to the studied sample satisfaction eight weeks post-intervention regarding the implementation of the program (n=156).

Items	Frequency	Percentage
The aver all satisfaction degree		
Satisfied	142	91.0
Dissatisfied	14	9.0
Mean satisfaction 2.08 (0.51)		
Program Session teaching environment and time.		
Satisfied	140	90.0
Dissatisfied	16	10.0
Mean satisfaction 2.09 (0.52)		
The program method of teaching		
Satisfied	140	90.0
Dissatisfied	16	10.0
Mean satisfaction 2.09 (0.52)		
The program trainer's behavior and language		
Satisfied	136	87
Dissatisfied	20	13
Mean satisfaction 3.01(0.61)		
Access to updated knowledge and practice from the program		
Satisfied	142	91.0
Dissatisfied	14	9.0
Mean satisfaction 2.08 (0.51)		
It is recommended to repeat the program session for another cohort and larger samples in the future		
Satisfied	142	91.0
Dissatisfied	14	9.0
Mean satisfaction 2.08 (0.51)		

Figure 3. The overall studied sample satisfaction eight weeks post-intervention regarding the implementation of the program (156).

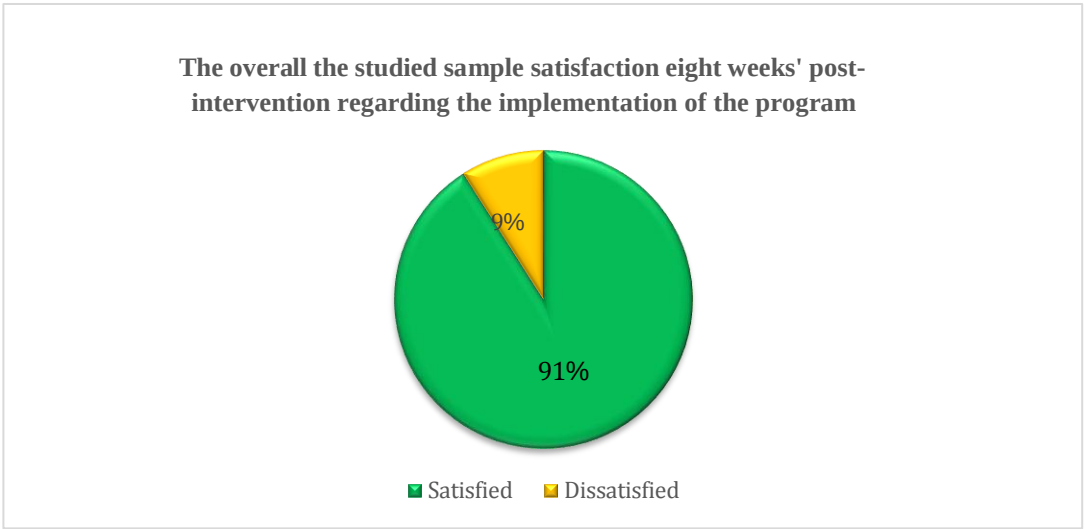

Table (8): Correlation between barriers and satisfaction for internship students and internship ' post-program performance in the maternity and delivery room(n=156).

Item	Post-program performance	
	r	**P- value**
Barriers	-0.594	0.000**
Satisfaction	0.462	.000**

Discussion

Clinical learning is a vital and integral part of nursing education. The preferable placement for nursing students to build their nursing knowledge is a learning environment; the clinical setting where they can learn clinical skills **(Harald et al., 2015).** Nowadays, the clinical nursing environment is more complicated than ever before. With a rapidly advancing profession, nursing requires higher cognitive skills from nurses. Critical thinking and clinical decision-making are considered fundamental skills for every health career professional (**Van Graan et al., 2016)**.

The present study aims to investigate the evidence-based clinical program's effect on improving the internship students' clinical performance in the delivery and maternity room. This aim was answered within the framework of the present study's research hypothesis. The internship students who received the evidence-based program showed better performance in the delivery and maternity room. This was achieved through the results of the current study because it was noted that there was a clear improvement in performance among the studied sample regarding the stages of labor and mother and newborn care after implementing the program sessions compared to the previous intervention. This indicates the success of the program and its achievement of the objectives for which it was set. This agrees with (**Elsabaa et al., 2022 and Elkashif et al., 2021, Mageda et al., 2020**)

It is clear from the results that there is a statistically significant improvement between the performance of the internship students towards the first, second, and third stages of childbirth as well as the care of newborns and mothers after birth before and after the implementation of the program. There is a significant improvement in the performance of the internship students immediately after the program implementation and eight weeks after the program implementation compared to their performance before the program. It is reported that programs addressing the EBP process that integrate conceptual EBP and research evidence with clinical experience and patient preference in order to provide optimal patient care led to support student involvement in learning the level of clinical integration required to optimize learning as well as student behavior development **(Scurlock-Evans et al., 2017 and Kyriakoulis et al., 2016).** In this respect**, Althaqafi et al., (2019)** mentioned that the educational programs affect the interns‟ ability to acquire the required knowledge and new skills and procedures. Moreover, **Najjar and Rawas (2018)** reported that the program internship enhances their clinical experiences, such as personal development and skills of leadership which support them to become more autonomous in their practice and develop advanced communication skills for dealing with a variety of patients. This finding supports the results of previous studies which reported that education and training programs for internship students are important in clinical practice (**Logina & Traynor, 2019).**

The educational programs for internship students are critical to supporting student nurses in their practice and facilitating their professional development. This result is related to the magnitude of developing the internship nursing students' skills, knowledge, and attitudes as well as their confidence to practice clinical procedure safely, and the importance of providing them with the chance to face a realistic environment for work in a healthcare setting and gain the proper experience to practice the professional nursing (**Weng et al., 2020**). Also, most of the studied sample have a positive attitude regarding the program eight

weeks post-implementation. **Liabsuetrakul et al., 2013** supported the present study results as the attitudes of his study sample towards EPP program improved in his study over time.

Regarding the compline with infection prevention measures in the maternity and delivery room, the present result shows a statistically significant difference between pre-, post, and eight weeks post-intervention of the program session in the maternity and delivery room pre and post their program according to the studied sample regarding compline with infection prevention measures in the maternity and delivery room pre and post their program. The result of this study is consistent with previous studies (**Hassan et al., 2020; Mahdy et al., 201; Elsabaa et al., 2022)**. In this respect, it is recommended that the nurse should be trained and retrained at least two times per year for hospital infection control. Infection control is one of the most important topics that needs attention and consideration, especially in the delivery and labor room. Infection acquired by mothers during childbirth is a reason for the occurrence and increase in the rate of death and diseases. It was found that about 1.49 million neonatal deaths and deaths occur in the world due to infections acquired from the hospital during childbirth (**Ali & Ali, 2017; Mason et al., 2014).**

The childbirth process may lead to sepsis of the wound and infection of the genital tract in case of not following the infection prevention measures in the maternity and delivery room. it is reported that the rate of maternal morbidity related to sepsis reached 0.6 for every 1000 deliveries in high-income countries (**Van Dillen et al., 2010).** Moreover, maternal death from sepsis reached 41.9% **(Rajesh Mehta et al., 2011**), and neonatal deaths in low and middle-income countries were estimated at 36.0 % **(Ali and Ali, 2017).** So, to overcome this problem an infection prevention and control program is needed to achieve a reduction in infection rates among parturient women (**Ferreira et al., 2017**). It is recommended that the standard infection control measures should be taken before nata, intra-natal and postnatal. Gloves, gowns, a masks, and eye protection should always be worn during labour procedures. During vaginal examinations and other required procedures cleaning the birth canal with a disinfectant can be used in limited-resource settings to minimize the risk of both maternal infections and neonatal sepsis. The vaginal examinations should be kept to a minimum as much as possible to limit the risk of infection **(Kluytmans and Veenemans , 2018**).

It is reported that several barriers that prevent internship student nurses to achieve their competent clinical training were identified as lack of relit is choired skills; lack of knowledge, lack of authority to make decisions; lack of motivation to change behavior or adopt new behaviors; being frightened of legal issues. Moreover, the lack of effective communication during labor and delivery management is considered the main barrier for internship students to achieve competent during their training; shortage of time in healthcare providers due to shortage in human resources; unsuitable physical construction of birth setting; deficiency of equipment in the birthplace and insufficiency of clinical supervision by first-line managers (**Iravani et al., 2016**). The results of the present study support the previous results as the shortage of human resources with the required experience and skills, the inability of healthcare workers to realize the value of evidence-based interventions and change from traditional practice to evidence-based practice, shortage of infrastructure and requirements, supplies, equipment, and medicines to implement the evidence-based program. Moreover, a shortage of health information technology to monitor and document evidence-based health practices.

Also, nursing students are not satisfied with the clinical experience. They suffer from anxiety due to feelings of lack of competencies and the professional nursing knowledge and skills not enough to meet the care needs of patients **(Al-Mahmoud et al., 2013).** Also, confirmation of the results of the current search, the results of some studies revealed that the internship student nurses encountered unfair dealing and ignorance from other healthcare professionals in clinical practice (**Althaqafi et al., 2019 and Najjar and Rawas, 2018)**.

The present study results showed that the

participants were satisfied with the evidence-based program in the delivery and maternity departments. The present study findings illustrated that most of the studied sample is satisfied with the program at eight weeks post-implementation. These were agreed with other studies which reported that the vast majority of the respondents showed satisfaction with the program implementation **(Elgazzar et, 2023; Elsabaa et al., 2022; Elkashif et al., 2021; El-Kashif et al., 2020).** As most of the studied sample are satisfied with the teaching environment and time; the program method of teaching; the trainer's behavior and language. Moreover, they have access to updated knowledge and practice from the program. Thus, they recommended repeating the program session for another cohort and larger samples in the future. Also, it was observed from the breast study that a positive correlation between internship students' performance in the maternity and delivery room at pre-, immediate, and eight weeks post-intervention. This indicates that the program achieved its desired results as the students achieved the improvement of their Performance in the maternity departments. So, these are the results that must be achieved after conducting evidence-based programs in clinical practice. Therefore, it is recommended to repeat this program in the delivery and maternity departments and other departments.

Moreover, there is a strong positive relationship between the performance of the internship students in the delivery and maternity departments after implementing the program and their satisfaction with the program and the barriers they encountered in the training place. This current study disagreed with **(Abd El-Salam, et al., 2016)** who reported insignificant differences between the internship nursing students' performance and barriers. This may be due to the absence of communication between nurses‟ students and other staff, lack of interpersonal skills, and standardized training.

Strength of the study: The strong point is the use of a program based on evidence-based practice, which the World Health Organization confirmed to be used, to avoid erroneous, harmful, and ineffective clinical practices. Also, a tool approved by the International Health Organization was used to correct the practices and information of the internship students in the maternity and gynecological room. So, the methodological tools can be used in the clinical training of internship student nurses in maternity and delivery rooms and other settings. Also, the results of this study can be used as a basis for decision-making to raise the level of practical training for internship students in all health specialties. However, the limitation is the use of the convenient sampling method does not permit generalizations.

Conclusion: -

It was observed from the present study that the research hypothesis was achieved from the present study findings. It is clear from the results that there is a statistically significant improvement between the performance of the internship students towards the first, second and third stages of childbirth as well as the care of newborns and mothers after birth before and after the implementation of the program. Also, the participants were satisfied with the evidence-based program in the delivery and maternity departments. It was observed from the present study that most of the studied sample complies with infection prevention control 8 weeks post-program. Moreover, there is a strong positive relationship between the performance of the internship students in the delivery and maternity departments after implementing the program and their satisfaction with the program and the barriers they encountered in the training place.

Recommendations:

Based on the results of the present study, the following are recommended

- The Evidence-Based program to improve the internship students' clinical performance should be accessible and persistently provided to the internship student nurses in all health settings to avoid erroneous, harmful, and ineffective clinical practices as recommended by WHO.

- Incorporating the infection prevention measures concept into the part of training is recommended to ensure target clinical practice

is triggered at the appropriate time, as is the allocation of more time within training to infection prevention measures.

- The present study on the evidence-based clinical program to improve the internship students' performance in the delivery and maternity departments can be replicated with a comprehensive sample.

- It is recommended therefore that evidence-based practice should be taken into consideration when developing strategies aiming at improving the internship nursing students in clinical settings.

- Nurse administrators must establish internship student nurse units that periodically monitor their training as well as collaborate with internship instructors to monitor and plan student training.

- Faculty of nursing must increase the number of internship clinical instructors to continuously monitor student nurse clinical training in the delivery room.

- The program booklet used in this study can be carried out in its present form or other advanced and more developed versions for internship nursing performance in the delivery and maternity departments in all training settings.

- Further research scoping involving evidence-based practice for undergraduate curricula and applying it in clinical practice is suggested.

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