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Effect of Training Program on Midwife's Knowledge and Practice Regarding Evidence Based Practice for Active Management of Third Stage of Labor in Al Tahreer Maternity Hospital in Gaza strip, Palestine.

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Abstract

Background:

The third stage of labor is considered to be the most dangerous stage for the bearing woman due to the threat of bleeding. Midwife is frontline to give care, by using active operation of third stage of labor which as evidence based technique.

Aim

This study was aimed to evaluate the effect of training program on midwives' knowledge and practice regarding evidence based practice of active management of third stage of labor in Al Tahreer maternity hospital. This study was aimed to estimate the effect of training program on midwives' knowledge and practice regarding evidence based practice of active operation of third stage of labor in Al Tahreer maternity hospital.

Materials and Methods:

quasi-experimental was utilized. Study population consisted of (71) midwives who working in El -Tahreer maternity Census sampling was carried out among 71midwives who have been volunteered to participate in the study. The study used a structured self-administered questionnaire, which validated by experts and reliability analysis was performed using Cranach's Alpha test (0.675),and observation checklist for monitoring midwives' performance ,which validated by experts and reliability analysis was performed using Cranach's Alpha test (0.940). Data analysis was performed by using statistical package for social sciences (SPSS) version21.

Results:

the results revealed that the mean score of midwives' knowledge regarding active management of third stage of labor was (70.30) before the intervention raised to (77.08) after with p value <0.001 , the effect size SMD (2.19), also the mean score of midwives practices regarding all domains of active management of third stage of labor was (62.95) before the intervention raised to (84.76) after with p value <0.001 , the effect size SMD (1.25),there were statistically significant differences between pre and after intervention for after.

Conclusion:

The observe concluded that there has been a significant development of midwives' knowledge and practice after imposing the training program.

Recommendation:

The study recommended that midwives should update the knowledge and skills regarding evidence based midwifery practice , through implemented the training programs in other hospitals periodically.

Keywords: Midwife, Knowledge, practice, Evidence, Active management, Third stage.

Introduction

Nearly 80% of the women who die every minute as a result of difficulties during pregnancy, childbirth, and the postpartum period live in underdeveloped nations.(WHO. Organization WH, UNICEF, 2015) .

Maternal mortality was defined by the WHO as the death of a woman while pregnant or within 42 days of the end of her pregnancy from any cause made worse by the pregnancy or its operation.(Mavrides E AS, Chandraharan E, Collins P, Green L, Hunt BJ, Riris S, Thomson AJ,2016 : 106-e49).

These deaths typically occur within 4 hours of delivery, indicating that the third stage of labor is to blame for their occurrence. The time between the baby's birth and the placenta and membranes being removed is referred to as the third stage of labor. 3. Postpartum hemorrhage commonly occurs during the third stage of labor, so it's crucial that this period of labor runs well. (Dogukan Yildirim, 2016: 399– 404) .

Active treatment of the third stage of labor, a substantiation-based clinical practice approach, can prevent post-partum hemorrhage (AMTSL) . (Côrtes, C. T., Oliveira, S. M. J. V. D., Santos, R. C. S. D., Francisco, A. A., Riesco, M. L. G., & Shimoda, G. T.,2018 : 26) .

A combination of actions taken during the third stage of labor to aid PPH is known as active operation of the third stage of labor (AMTSL). The components of AMTSL include administering a uterotonic medication within one minute of the baby's birth, controlled cord traction (CCT), delaying cord clamping for two to three minutes, and incontinent uterine massage following placenta delivery. (Andugry N, Abdalla A, Abdalla A, Mohammed S, Elnasry A,2017: 224-8) .

The third stage of labor should be actively operated since it is the first line of defense against maternal morbidity and mortality caused by postpartum hemorrhage. (Ahmed M & Bhalerao A.N, 2017: 4744-4747).

Ensuring optimum knowledge of nurse midwives caring for women is one of the strategies for improving the quality of obstetric care. (Tenaw Z, Yohannes Z, Amano A, 2017: 292).

So that midwives should have knowledge to influence rates of maternal morbidity and mortality . (Rahel Y, Tsehay S, Andualem H, and Tafesse L, 2015: 5).

Examining nurse-midwives' knowledge of third stage care could help to improve obstetric practices based on evidence by instructing them in AMTSL, according to scientific evidence. (Asibong U, Akpan U, Ayi E,2018 : 9-15) .

The training implications are necessary in providing the midwives with proper knowledge on how to provide quality practice during third stage of labor and decrease the risk of third stage complications and post-partum hemorrhage: (Bishanga D.R, Charles J, Tibaijuka G, Mutayoba R, Drake M, Kim Y, Plotkin M , 2018 : 223).

Midwives can gain the knowledge they need to increase the timeliness of their reaction to PPH through education and training programs that make use of updated management and the most recent evidence for third stage of labor protocol. (Daef G, Naidoo T.D, Moodley J.,2017).

It was observed that our midwives lack understanding about evidence-based practice with regard to AMTSL, and there are no scientific research studies concerning AMTSL in Gaza Strip maternity hospitals, according to the researcher's experience in maternity care. Therefore, Analysis of the effectiveness of completing an evidence-based training program regarding AMTSL on midwives' knowledge and practice in Al Tahreer Maternity Hospital is the goal of this study..

Methods and Materials

Study design and setting

Quasi-experimental design was utilized. The sample of this study is **census**, which consists of all midwives who were working in El-Tahreer maternity hospital during the period from (Aug/2018–Sep/2019), (71) eligible midwives who accept in participate in the study was recruited to interventional program.

Interventional Program

Study consisted of three phases; the first one is pre intervention phase, as assessment and preparation phase. The second is intervention phase, as implementation of training program on evidence based practice of AMTSL in EL-Tahreer hospital, and the third phase is post intervention phase, as evaluation phase for implemented training program on Midwife's knowledge, and practice. The researcher studied and reviewed the previous literature related to evidence based practice for AMTSL and designed training program. The program educational strategy integrates an evidence based guideline from the WHO / FIGO guidelines during training .For the purpose of data collection, self-administrated questionnaire was used to measure the nurse-midwives' knowledge before and after the training program to evaluate the effect of the e training program on their knowledge. Performance monitoring checklist was developed to observe the actual midwives' performance before and after the training program.

Data entry and statistical analysis

All collected data was examined after collection before being included into the study database. Data were imported into Windows version 18.0 of SPSS (Statistical Package for Social Science). Data entry, cleaning, and accuracy checks were all part of the data treatment process, which also included numbering the results and structuring the data for analysis. Descriptive statistics and an analysis of variance were used to analyze the data. Paired t-test was performed to compare the changes in midwives' knowledge and practice. The level of significance was set at 0.05.

Results

1. Distribution of the study participants according to their socio demographic information

1.3 Socio-demographic characteristics (n = 71)

The research demonstrates that how study participants were distributed according on their sociodemographic characteristics. Regarding the distribution of study participants according to their work department, about 39.4% of the study participants were from labor room, while 23.9 % were from peri-op obstetric ward, 16.9 from Gyn.ward,8.5% from high risk ward,5.6 from obstetric emergency ward and 5.6 from obs.OR room. Classifications of the study's participants according to experience 54.9% tier experience between 6-10 years, 19.7% their experience between 1-5 years, and 25.4% more than 10 years. The majority of the study participants held a Bachelor's degree in regards to education. (84.5%) while 8.5% had diploma degree and 7% had Post graduate. On the other hand only 7% of the

participants received previous training and 93% didn't receive previous training. Regarding to knowledge 's source about AMTSL about 83.1% in job training,9.9% from colleagues,7% from books , additionally 77.5% of participant used AMTSL ,and 22.5% didn't use AMTSL.

Table (1): Socio-demographic characteristics (n = 71)

Variable	Frequency	Percent (%)
Department		
Labor room	28	39.4
Obs. Emergency	4	5.6
Peri-op obs. Ward	17	23.9
Obs. OR room	4	5.6
High risk	6	8.5
Gynec. Ward	12	16.9
Experience (year)		
1 – 5	14	19.7
6 – 10	39	54.9
> 10	18	25.4
Education		
Diploma	6	8.5
Bachelor	60	84.5
Postgraduate	5	7

2. Effectiveness of AMTSL program on knowledge

Table (2) The Paired t- test showed significant differences between midwives' knowledge before and after training program ($P>0.05$), with very high SMD(2.19), Mean Diff(-6.77 (95% CI between (-7.90, -5.65)),which mean that implementation of training program was high effect on midwives' knowledge .

Table (2): Effectiveness of AMTSL program on knowledge

Variable	Pre-test (n=71)	Post-test (n=71)	Mean Diff. (95% CI) (Pre - Post)	t-stat(df)	p _a value	Effect size (SMD) _i
	Mean±SD	Mean±SD				
General Knowledge about Third Stage Labor (%)	54.16±4.20	68.55±4.92	-14.39 (12.83, 15.94)	18.49 (70)	<0.001*	3.14
Knowledge about AMTSL (%)	54.55±5.02	72.05±4.31	-17.50 (15.75, 19.24)	-19.99 (70)	<0.001*	3.74
Overall effect on Knowledge (%)	70.30±3.87	77.08±2.10	-6.77 (-7.90, -5.65)	-12.04 (70)	<0.001*	2.19

3. Effectiveness of AMTSL program on midwives' practice

Table 3) The Paired t- test showed significant differences was found between midwives' practice before and after training program ($P<0.05$), with very high SMD(1.25), Mean Diff(-

21.8 (95% CI between (-25.31, -18.29), which mean that implementation of training program was high effect on midwives' practice.

Table (3): Effectiveness of AMTSL program on midwives' practice

Variable	Pre-test (n=71)	Post-test (n=71)	Mean Diff. (95% CI) (Pre - Post)	t-stat(df)	p value ^a	Effect size (SMD) ₁
	Mean±SD	Mean±SD				
Preparation steps for AMTSL (%)	52.11±23.38	68.77±18.88	-16.66 (-21.61, -11.72)	-6.72(70)	<0.001*	0.78
AMTSL Step 1 (%)	64.78±35.24	90.14±24.81	-25.35(-35.12, -15.57)	-5.17(70)	<0.001*	0.83
AMTSL Step 2 (%)	58.45±32.71	84.50±27.50	-26.05(-34.97, -17.14)	-5.82(70)	<0.001*	0.86
AMTSL Step 3 (%)	70.42±20.14	93.56±9.89	-23.13(-26.93, -19.34)	-12.15(70)	<0.001*	1.45
AMTSL Step 4 (%)	69.01±27.10	86.82±11.99	-17.80(-21.95, -13.65)	-8.55(70)	<0.001*	0.84
Overall effect on Practice (%)	62.95±21.39	84.76±12.37	-21.80(-25.31, -18.29)	-12.38(70)	<0.001*	1.25

4. Correlation between the knowledge and practice levels at the end of the study

Table (4): correlation between the study's end knowledge and practice levels (Post-test)

Variable	Practice level (%)	
	Spearman correlation coefficient	p value
Knowledge level (%)	0.44**	< 0.001

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

Table (4) illustrated that there was statistically significant association between knowledge and practice ($r = 0.44$, $P = 0.001$). This result indicated that the improvement in knowledge was reflected on the midwives' practice.

Discussion

The midwives employed in the Al Tahreer maternity hospital were trained as a part of this research. The training program included knowledge about AMTSL, and videos with demonstrations of the correct steps of AMTSL. The sample of the study consisted of 71 midwives, the majority of them were from the middle age, with an experience ranged between 6 – 10 years, and the majority of them have bachelor degree. Our results were incongruent with study of Asibong et al., (2018) revealed that people aged 30 to 39 made up the significant majority of participants. Among the respondents enrolled for the study, one-fifth had nursing

diploma, very few had bachelor degree in nursing science while one-third had health officer certificates. In addition, one-third had 1 - 10 year of working experience⁹.

The results of this study reflected that the training program was highly effective in improvement of midwives' knowledge and practice about AMTSL. Our results were consistent with the results of Bishanga et al., (2018) who found that the proportion of deliveries receiving all three AMTSL steps improved significantly following the implementation of the training program. The results of this study indicated that the improvement in knowledge was reflected on the midwives' practice of AMTSL¹⁰. These results were consistent with Asibong et al., (2018) who found that there was statistical significant relationship between being knowledgeable and correct practice of AMTSL. It is obvious that knowledge and practice are inter-related, and usually, knowledge precedes the practice, and good practice is supported by good knowledge⁹.

Regarding Practical steps , The results of study indicated that more than one-third of study participants performed the steps of AMTSL correctly before implementation of the training program, and after implementation of the training program, about three-fourth of study participants performed the steps of AMTSL correctly, which reflected significant improvement in practice of AMTSL. In addition, after implementation of the program, the majority of study participants administered uterotonic drugs, practiced delayed cord clamping, performed CCT correctly, and performed uterine massage correctly. These results were consistent with the results of Daef et al., (2017) who found that the vast majority of midwives and doctors practicing AMTSL. Manual removal of the placenta was incorrectly listed as a part of AMTSL by two-thirds of midwives. Two-thirds of midwives thought that the routine administration of uterotonic agent was part of expectant management of the third stage of labor (EMTSL). Early cord clamping was practiced by more than two-thirds of midwives, while the vast majority of midwives delivered the placenta by CCT¹¹.

Conclusions:

The results of the paired "t" test revealed that the knowledge and practice of midwives before and after the implementation of the training program differ significantly. According to the study's findings, a training program grounded in scientific evidence was an important strategy for enhancing midwives' knowledge and skills in the active management of the third stage of labor (AMTSL).

Recommendation

Study recommended that there is need to strengthen training program for midwives to update the knowledge and skill regarding evidence based midwifery practice, In order to provide safe maternity care, future implications of evidence-based practice for the treatment of the third stage of labor among midwives in all maternity institutions.

Ethical Considerations

Compliance with ethical guidelines

The Helsinki Committee in Gaza issued a formal letter of consent for the study's conduct. Additionally, a formal letter from the MOH Director authorizing the study's execution at El-

Tahreer Hospital was received. Each participant signed a consent form, which was then obtained and attached to each questionnaire to ensure that they were voluntarily participating. The goal of the study, a statement about the confidentiality of the information and instructions on how to complete the questionnaire were all included in the attached form.

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Authors contributions

All authors contributed to the concepts, designs, manuscript preparation, questionnaire evaluation, and document editing.

Conflict of interest

There are no competing interests that need to be disclosed.

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