EFFECTIVENESS OF TRAINING PROGRAMME ON NURSES, KNOWLEDGE AND PRACTICES REGARDING PARTOGRAM

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Abstract

- ***AIM:*** The aim of this study is to evaluate the effectiveness of training programme on nurses' knowledge and practices regarding partogram. ***RESEARCH HYPOTHESIS:*** After implementation of training programme for nurses regarding knowledge and practices of partogram, there will be significant improvement between the pre and Post-intervention scores**.** ***DESIGN:*** A quasi-experimental design **.** ***SETTING:*** The labor unit of obstetrics and gynecology department at Benha university hospital. ***SAMPLE:*** Convenient sample of nurses, a total number of ٤٠ nurses. ***TOOLS:*** The tools of data collection were self-administrated questionnaire sheet and observational checklist. ***RESULTS:*** showed that, more than three quarters of the studied nurses(٨٧.٥٪) didn't know, study or receive training on partogram**.** Regarding pretest knowledge and practice scores, more than three quarters of the studied nurses (٨٧.٥٪) had poor level of knowledge and practice regarding partogram. Regarding posttest knowledge scores, three quarters of the studied nurses (٧٥٪) had good level of knowledge regarding partogram and one quarter (٢٥٪) had moderate level of knowledge. Regarding posttest practice scores, nearly three quarters of the studied nurses (٧٠٪) had good level of practice

regarding partogram and more than one quarter (٣٠٪) had moderate level of practice. ***CONCLUSION:*** After implementation of training programme for nurses working in labor unit at Benha university hospital regarding knowledge and practices of partogram, there were significant improvement between the pre and Post-intervention scores. ***RECOMMENDEDATIONS:*** Pre –service and in-service training should be designed to improve nurses' knowledge and practices regarding utilization of partogram, provision of regular workshops and seminars for nurses on partogram use, encourage mandatory institutional policy for routine use of partogram in labor unit.

Key words: partogram, knowledge & practice.

INTRODUCTION

Partogram is a graphical chart in management of labor that helps health care providers to monitor cervical dilation in relation to time, record the measurements on a single sheet of paper and determine if there were any deviations from the normal course of labor, predict any possible obstetric complications , enhance normal childbirth and prevent adverse maternal and fetal outcomes. ***(Nyiawung, et al., ٢٠١٨).***

Partogram consists of three main components: The fetal condition that includes fetal heart rate, condition of membranes and liquor and degree of molding. The progress of labor is monitored using cervical dilatation, the descent of the fetal head and uterine contractions and lastly the maternal condition represented through the dose of oxytocin, drugs,intravenous fluids administered, the maternal vital signs and also determination of the urine volume and analysis for presence of protein and acetone. ***(Bedwell, et al., ٢٠١٧).***

The majority of the deaths and complications from obstructed labor could be prevented by cost effective and affordable health intervention like partogram. partogram also facilitates handover, responsibility and accountability of the persons handling parturient. Moreover, partogram can increase interaction between care providers and the laboring women, enhance communication among care providers, promote continuity of care and encourage teamwork and with the use of the tool there is no need to record labor events repeatedly ***(Hoppe, et al., ٢٠٢٠).***

Unfortunately, partogram is underused and there are many possible obstacles to effective use of partogram by obstetric health workers in management of labor as having negative attitude toward the use of the tool, lack of knowledge, lack of training on use of partogram, limited resources as lack of partogram charts, and also lack of mentoring and supervision from hospital managers. ***(Bazirete, et al., ٢٠١٧)***

Maternity health care givers should possess good knowledge and practice and receive training on partogram and normal child birth care procedures and be able to detect early maternal and fetal complications, so training programmes on patient care are recommended to increase care providers' knowledge, practice and confidence and accordingly quality of care across diverse practice settings ***(Lavender, et al., ٢٠١٨).***

Significance of the study

Maternal mortality is a major cause of death for women in Egypt. It is estimated to be ٣٧/١٠٠٠٠٠ live birth. ***(WHO, UNFPA, UNICEF, The World Bank & The United Nations, ٢٠١٧).*** Nearly all of these deaths are preventable because the majority of deaths are caused by

hemorrhage, prolonged or (OL), sepsis, hypertensive disorders and unsafe abortion. The majority of the deaths and complications could be prevented by cost effective and affordable health interventions like the partogram and indeed the measures that would prevent maternal deaths would also prevent morbidity and improve neonatal outcome. Partogram is an effective tool for monitoring labor and when used effectively, will prevent prolonged labor, which accounts for the majority of maternal deaths. Partogram thus serves as an early warning system and assist in early decision on transfer, intervention decision in hospitals and ongoing evaluation of the effect of interventions. Because partogram is a simple tool to monitor labor in a cost-effective way, it is a suitable method to be used by maternity health care providers in low income countries to improve maternity care. However, partogram is underutilized in labor unit at Benha university hospital and (٥٢.٥٪) of nurses have poor level of knowledge about the tool and (٩٥٪) of them didn't receive training about partogram ***(Mustafa, ٢٠١٧).,*** So this research aimed to evaluate the effectiveness of training programme on nurses' knowledge and practices regarding partogram.

AIM OF THE STUDY

This study aimed to evaluate the effectiveness of training programme on nurses' knowledge and practices regarding partogram.

Research Hypothesis:

After implementation of training programme for nurses regarding knowledge and practices of partogram, there will be significant improvement between the pre and Post-intervention scores.

SUBJECT AND METHODs

Research design:

A quasi-experimental design was utilized for the study.

Research Setting:

The study was conducted in the the labor unit at Benha university hospital .

Sampling:

Type: Convenient sample (All nurses were available at time of data collection**).**

Sample size: (٤٠) Nurses.

Tools of Data collection:

Tool I: Self-administered questionnaire: that included two parts:

Part ١: Socio-demographic data: as (age, educational level and experience years, etc.….).

Part ٢: Knowledge assessment sheet: to assess level of nurses' knowledge regarding partogram as (definition, components, when to start recording into the partogram, etc.….).

Scoring system for knowledge:

-Correct answer was scored (٢)

-In correct or don't know answer was scored (١)

Total score of knowledge will be categorized as following; Good (≥٧٥٪), Average ((٦٠-٧٥ %) and Poor (≤٦٠٪).

Tool II: Observational checklist:

An observational checklist was designed to assess nurses' practices regarding partogram, it was adopted from ***Salama,et al.,(٢٠١٠).***

Scoring system for practice:

The scores for practice were divided into two points as following:

- Done correctly was scored (٢).
- Done in correctly or not done was scored (١).

Content validity:

Tools of data collection were reviewed by panel expertise (three specialized university professionals in obstetrics and gynecology and in maternal and newborn nursing) according to their comments, modifications were done.

Ethical Considerations:

- An informed oral consent was obtained from the study participants before collecting data.
-No harmful maneuver was performed or used.
-All data were considered confidential and were only used for the purpose of research.
-Nurses were informed about their right to withdraw from the study at any time without giving reasons.

-Pilot Study:

A pilot study has been conducted to test the clarity and applicability of study tools and the time needed to fill in the questionnaire which was ٣٠ minutes. (١٠٪) of the total sample of nurses (٤) were chosen and no modifications were done.

- Field work:

- The researcher visited the study setting (٢) days per week, interviewed study participants, introduced self, the aim of the study was explained and oral consent to participate in the study was obtained.
- The researcher assessed level of nurses' knowledge and practices regarding partogram using predetermined tools as:

I-Self-administered questionnaire: that covered:

Part ١: Socio-demographic data: as (age, educational level and experience years, etc.….).

Part ٢: Knowledge assessment sheet: to assess level of nurses' knowledge regarding partogram as (definition, components, when to start recording into the partogram, etc.….).

II-Observational checklist:

An observational checklist was designed to assess nurses' practices regarding partogram.

- This phase was used as a pretest.

- Participants were divided into sub groups (٥) groups, each group included (٨) nurses and received (٤) sessions each session lasted

for (٢) hours. The sessions were (٢) for the theoretical part which involved explaining (definition, components of partogram and when to start plotting in the partogram ….etc), the other (٢) sessions were for the practical part which involved explaining how to record the various parameters on the partogram.

- Sessions started and different methods of teaching were used such as discussion, demonstration and re-demonstration and supportive materials as instructional media, instructional guideline and partogram charts were also used to achieve the objectives.

- The researcher evaluated the effectiveness of the training programme on nurses' knowledge and practices regarding partogram through a post-test which was distributed to each nurse by using the same tool which was used as a pre-test.

Limitations of the study:

Some of nurses were too busy to fill in the tools in the same day and they were interviewed in another day.

RESULTS:

Part I: (Pre test)

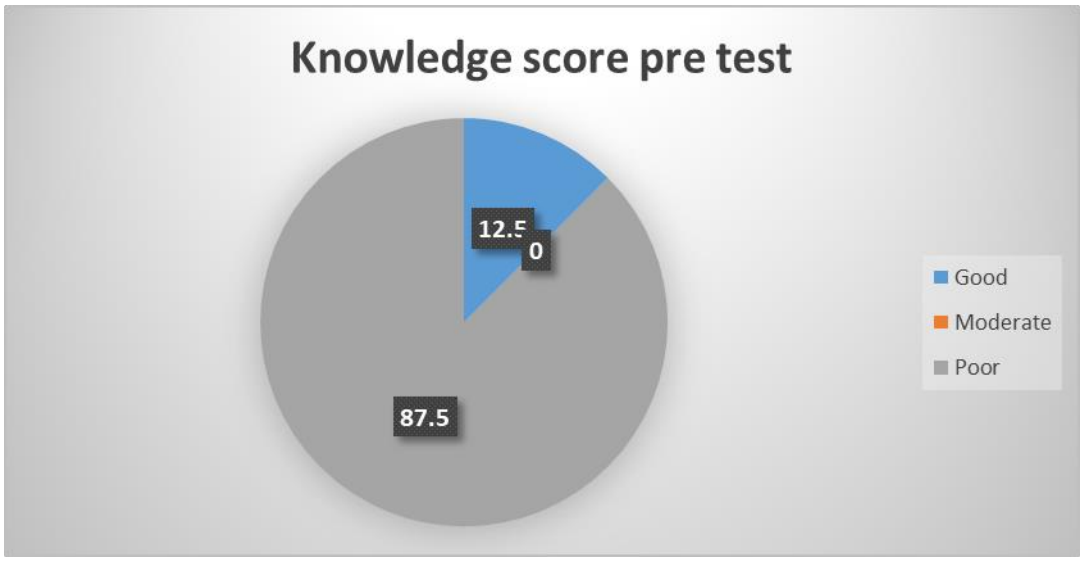
Table (١): Distribution of the studied sample (nurses) regarding their personnel characteristics (n=٤٠).

Variable	Frequency	%
Age in years		
٢٠-٢٩	٢٩	٧٢.٥
٣٠-٣٩	٩	٢٢.٥
≥٤٠	٢	٥.٠
Mean ±SD	٢٧.٦٦ ±٣.١٤	
Qualification		
Bachelor of nursing	١	٢.٥
Nursing technical institute	١٥	٣٧.٥
Nursing diploma	٢٤	٦٠.٠
Years of experience		
(١-٥) years	١١	٢٧.٥
(٦-١٠) years	٢١	٥٢.٥
(١١-١٥) years	٦	١٥.٠
(>١٥) years	٢	٥.٠
Mean ±SD	١٠.٥٦±٤.٨٨	

Table (١) shows that nearly three quarters of the studied nurses (٧٢.٥٪) were in age group of (٢٠-٢٩) years old. The mean age of them was ٢٧.٦٦ ±٣.١٤years. Nearly two thirds (٦٠٪) of the studied nurses had nursing diploma and more than half of them (٥٢.٥٪) had years of experience from (٦-١٠) years with mean experience years about ١٠.٥٦±٤.٨٨.

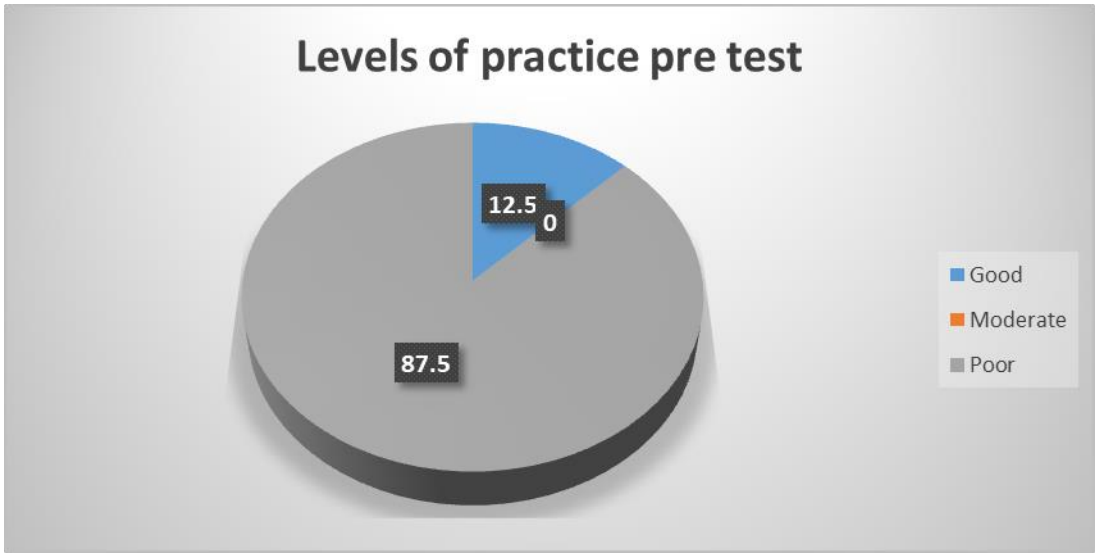
Part I: (Pre test)

Figure(٤):Distribution of studied sample (nurses) regarding their pre test total knowledge score (n=٤٠).



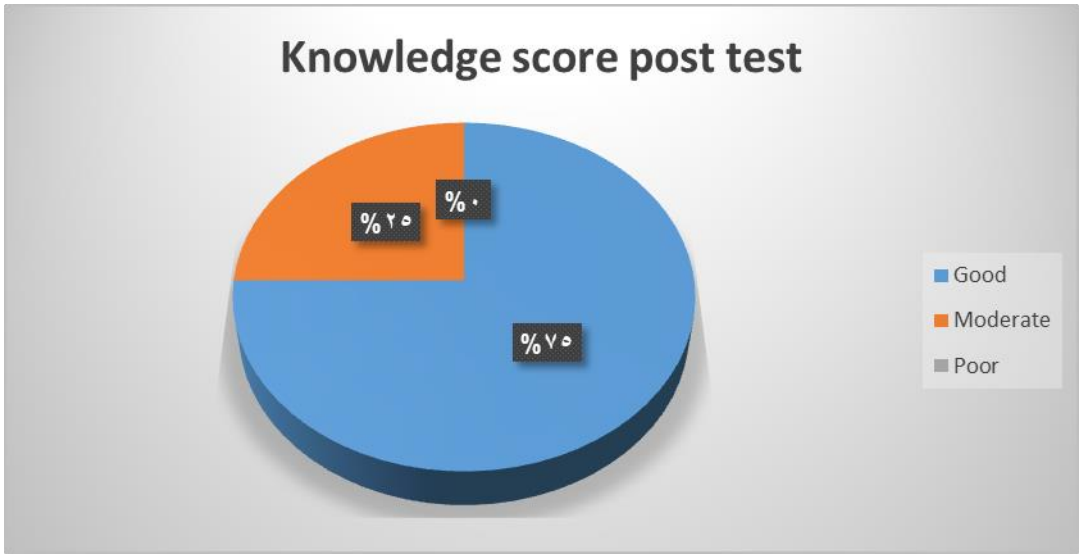
Part I: (Pre test)

Figure(٥):Distribution of studied sample (nurses) regarding their pre test total pactice score (n=٤٠).



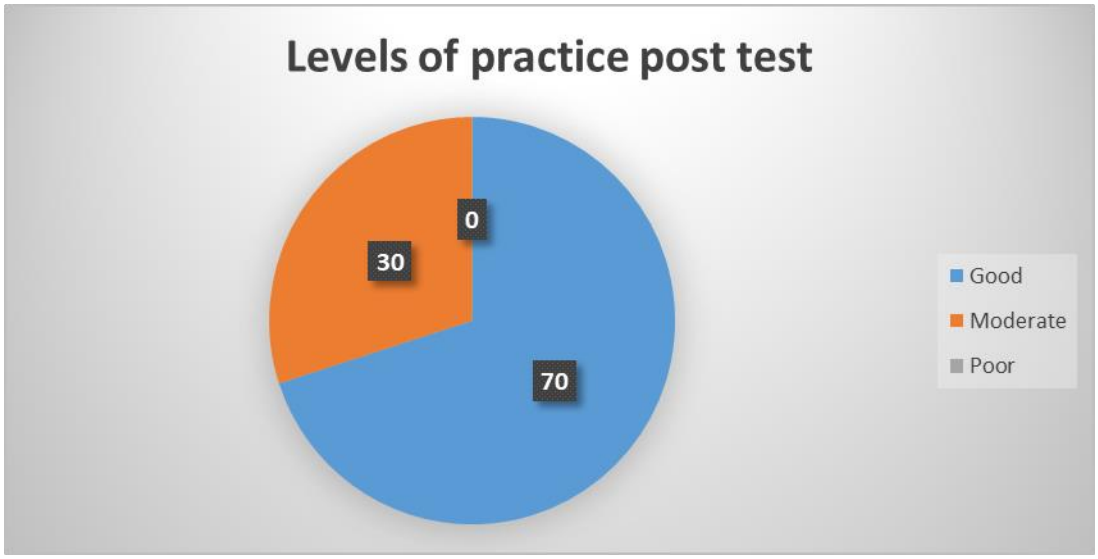
Part II: (Post test)

Figure(٦):Distribution of studied sample (nurses) regarding their post test total knowledge score (n=٤٠).



Part II: (Post test)

Figure(٧):Distribution of studied sample (nurses) regarding their post test total pactice score (n=٤٠).



Part III:

Table(١٢): Knowledge and practice levels differences both pre and post test.

	Pre test		Post test		Statistical test	P value
	No	%	No	%		
Knowledge score Good Moderate	٥ ٠	١٢.٥ ٠.٠	٣٠ ١٠	٧٥.٠ ٢٥.٠	X٢= ٦٢.٨٦	<٠.٠٠١**

Poor	٣٥	٨٧.٥	٠	٠.٠		
Levels of practice						
Good	٥	١٢.٥	٢٨	٧٠.٠	FET=	
Moderate	٠	٠.٠	١٢	٣٠.٠	٧٥.٢٥	<٠.٠٠١**
Poor	٣٥	٨٧.٥	٠	٠.٠		

Table (١٢) demonstrates that, there was a highly statistical significant difference between both pre and post test knowledge and practice scores.

DISCUSSION:

Regarding the age of studied nurses, nearly three quarters of them (٧٢.٥٪) were in age group of (٢٠-٢٩),(٢٢.٥٪) were in age group of (٣٠-٣٩) and (٥٪) were in age group of (٤٠ or more) with mean age of ٢٧.٦٦ ±٣.١٤. This result was in the same line with ***Abebe, et al., (٢٠١٣)*** who studied, *"Assessment of knowledge and utilization of partograph among health professionals in Amhara region, Ethiopia".* This study found that nearly two thirds (٦١.٦٪) of nurses were in age group of (٢٠-٢٩) years,(٣٠.٥٪) were in age group of (٣٠-٣٩) years and (٧.٩٪) were ٤٠ years or more. *This may be due to* that most of the studied nurses were nursing diploma who were delegated to work at young age.

On the other hand, the result disagreed with ***Konlan, et al., (٢٠١٦)*** who studied *"Knowledge and attitudes of midwives on the use of the partogram: a study among midwives in the Tamale Metropolis"*. This study found that (٥٤.٣٪) of studied midwives were in age group of (٥١-٦٠) years old.

Concerning the educational qualifications of the studied nurses nearly two thirds (٦٠٪) of the studied nurses had nursing diploma, more

than one third (٣٧.٥٪) had nursing technical institute and (٢.٥٪) had bachelor of nursing. This result was supported by ***Wakgari, et al., (٢٠١٥)*** who studied *"Partograph utilization and associated factors among obstetric care providers in North Shoa Zone, central Ethiopia across sectional study."* This study found that more than half (٥٨.٣٪) of the studied nurses had nursing diploma. On the other hand, the result was contradicted by ***Abhari,et al.,(٢٠١٤),***who studied*"A Study to Assess the Effectiveness of Planned Teaching Program on Knowledge Regarding Partogram Among Fourth Year B.Sc. Nursing Students of Karnataka College of Nursing at Bangalore"*, this study found that all of studied nurses were bachelor of nursing.

Regarding the years of experience of the studied nurses, (٢٧.٥٪) of the studied nurses had years of experience from (١-٥) years, more than half (٥٢.٥٪) had years of experience from (٦-١٠) years, (١٥٪) had years of experience from (١١-١٥) years and (٥٪) had years of experience more than ١٥ years with mean experience years of ١٠.٥٦±٤.٨٨.This result disagreed with ***Abebe, et al., (٢٠١٣)*** who found that less than half (٤١.٨٪) of study participants had years of experience more than ٥ years.

Regarding the pre intervention knowledge level of nurses about partogram, the results of the present study revealed that most of (٨٧.٥٪) of the studied nurses had poor level of knowledge about partogram while only (١٢.٥٪) had good level of knowledge. The findings of the present study was in the same line with a study conducted by ***Engida, et al., (٢٠١٣)*** who studied *"Knowledge and utilization of partograph among obstetric care givers in public health institutions of Adis Ababa, Ethiopia".* This study found that the majority of nurses had poor level of knowledge regarding partogram. *These results may be due to* that most of

the studied nurses were with nursing diploma and most of them didn't study or receive training on use of partogram.

Regarding the post intervention knowledge scores, the results of the present study demonstrated that (٧٥٪) of studied nurses had good level of knowledge regarding partogram and (٢٥٪) had moderate level of knowledge.The results of the present study agreed with ***Kumar,(٢٠١٤),***who studied, *"Knowledge and Practice on Partograph"*.This study found that(٩١٪) of studied nurses had good level of knowledge in post test results versus (٥٣٪) in pre test results and that there was post intervention improvement in total knowledge. *This may be due to* that the more teaching and training, the better the knowledge.

Regarding the pre intervention practice level of nurses regarding partogram, the results of the present study showed that (٨٧.٥٪) of the studied nurses had poor level of practice, while only (١٢.٥٪) of them had good level of practice .The results of the present study was in agreement with ***Kumar,(٢٠١٤),***who found that (٨٦.٦٧٪) of studied nurses had poor level of Practice, while (١٣.٣٣٪)of them had good level of practice in pretest results. This may be due to that most of studied nurses didn't study or receive training on use of partogram.

Regarding the post intervention practice scores, the results of the present study demonstrated that (٧٠٪) of studied nurses had good level of practice regarding partogram and (٣٠٪) had moderate level of practice. The results of the present study agreed with ***Kumar,(٢٠١٤),***who found that(٩١.٦٦٪) of studied nurses had good level of practice in post test results versus pre test results (٢٤.٧٦٪) had good level of practice in pretest results and that there was post intervention improvement in total

practice scores. *This may be due to* the effect of the training programme as the more teaching and training, the better the practice.

Regarding the relation between the pre test and post test knowledge scores, the results of the present study demonstrated that there was a highly statistical significant difference between the pre test and post test knowledge scores (p<٠.٠٠١). The results of the present study was in the same line with ***Al-daine, ٢٠١٦ ,***who studied, *"Effect of the Teaching Program Regarding Partograph on Midwives Knowledge at Delivery Room in Karbala City Hspitals".* This study found that there was a significant difference between pre and post test knowledge scores. *This may be due to* the effect of the training programme as the more teaching and training, the better the practice.

Regarding the relation between the pre test and post test practice scores, the results of the present study demonstrated that there was a highly statistical significant difference between the pre test and post test practice scores(p<٠.٠٠١).This result agreed with ***Kumar,(٢٠١٤),***who found that there was a highly statistical significant difference between the pre test and post test practice scores. *This may be due to* the effect of the training programme as the more teaching and training, the better the practice.

CONCLUSION

After implementation of training programme for nurses working in labor unit at Benha university hospital regarding knowledge and practices of partogram, there was significant improvement between the pre and Post-intervention scores.

RECOMMENDATIONS:

- Pre –service and in-service training should be designed to improve nurses' knowledge and practices regarding partogram.
- Provision of regular workshops and seminars for nurses on partogram use.

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