



# International Journal of Obstetrics and Gynaecological Nursing

E-ISSN: 2664-2301  
P-ISSN: 2664-2298  
IJOGN 2024; 6(1): 24-30  
Received: 20-11-2023  
Accepted: 28-12-2023

**Radhika Kumari Rai**  
M.Sc. Nursing, Department of  
Obstetrics and Gynaecological  
Nursing, College of Nursing,  
NEIGRIHMS, Meghalaya,  
India

**Jodibala Haobijam**  
Lecturer & H.O.D.,  
Department of Obstetrics and  
Gynaecological Nursing,  
College of Nursing,  
NEIGRIHMS, Meghalaya,  
India

**Badondor Shylla**  
Guest Lecturer, Research and  
Statistics, College of Nursing,  
NEIGRIHMS, Meghalaya,  
India

**Corresponding Author:**  
**Radhika Kumari Rai**  
M.Sc. Nursing, Department of  
Obstetrics and Gynaecological  
Nursing, College of Nursing,  
NEIGRIHMS, Meghalaya,  
India

## Effectiveness of video-assisted teaching programme on the knowledge and practice of partograph among nurses working in labor rooms of selected hospitals of Meghalaya

**Radhika Kumari Rai, Jodibala Haobijam and Badondor Shylla**

DOI: <https://doi.org/10.33545/26642298.2024.v6.i1a.130>

### Abstract

A Pre-experimental one-group pre-test post-test study was conducted among 48 labor room nurses in selected hospitals in Meghalaya employing a purposive sampling technique. Data collection involved the use of a structured knowledge questionnaire, and an observation checklist. It was uncovered that out of 48 nurses, merely 1 individual (2.1%) possessed good knowledge, while 25 individuals (52.08%), exhibited average knowledge and 22 individuals (45.8%) poor knowledge of the partograph during the pre-test. However, 22 individuals (45.8%) displayed substantial improvement and acquired good knowledge in the post-test, with an additional 26 individuals (54.16%) attaining an average level of knowledge. Data in regard to the practice of nurses on partograph revealed that out of 48 nurses, 8 (16.7%) had good practice and 40 (83.3%) nurses had poor practice in the pre-test while 43 (89.6%) nurses had good practice and 5 (10.4%) nurses had poor practice in the post-test. There was notable difference in the knowledge and practice scores before and after participating in the Video-Assisted Teaching Programme on Partograph which was found to be statistically significant, as indicated by a paired t-test value of 14.191 and 47 degrees of freedom, p value  $\leq 0.001^*$  at 95% confidence interval for knowledge and a paired t-test value of 12.052 and 47 degrees of freedom, p value  $\leq 0.001^*$  for practice respectively.

**Conclusion:** These remarkable findings revolve around the efficacious Video-Assisted Teaching Programme on Partograph which was effective in improving the knowledge and practice of nurses working in labor rooms regarding partograph.

**Keywords:** Effectiveness, video-assisted teaching programme, nurses, hospitals

### Introduction

One of the primary factors contributing to the elevated maternal mortality rate is obstructed labor, arising from the unfortunate neglect of prolonged labor. This harrowing affliction can subsequently lead to atonic postpartum hemorrhage, maternal weariness and desiccation, uterine rupture, besides obstetric fistulas <sup>[1]</sup>. To ensure a smoother and safer delivery, it is imperative for healthcare professionals to employ the use of a Partograph, a straight forward yet highly effective tool. By closely monitoring and recording the progress of cervical dilation throughout labor, this graphical representation becomes an invaluable asset benefiting both the maternal figure and the foetus <sup>[2]</sup>.

**Need of the Study:** In underdeveloped nations, obstructed labor and uterine rupture emerge as significant contributors to the tragic toll of maternal mortality and morbidity. As stated by the esteemed World Health Organization Maternal and Child Health and Family Planning Programme in Geneva, 1989, these conditions account for two out of the five primary causes. Astonishingly, the proportion of maternal deaths attributed to such complications can vary drastically, ranging from a mere 4% to a staggering 70%. Consequently, this distressing reality translates into a maternal mortality rate that can reach a distressing 410 per 1,000 live births. Moreover, protracted labor further exacerbates the dire situation, as it leads to heightened instances of postpartum hemorrhage and infection, which would ordinarily be less prevalent among those who experience shorter labor duration.

10 This study to evaluate the extent of knowledge and implementation of Partograph among nurses in labor rooms within chosen healthcare facilities sought to determine the impact of a Video-Assisted Teaching Programme on enhancing their understanding and utilization of Partograph for efficient care during labor process.

### Objectives

1. To assess the Knowledge and Practice of Partograph among nurses working in labor rooms of selected hospitals of Meghalaya.
2. To assess the Effectiveness of a video-assisted Teaching Programme on the Knowledge and Practice of Partograph among nurses working in labor rooms of selected hospitals of Meghalaya.
3. To determine the association of Knowledge score and practice score of the participants with selected Demographic variables.

### Research Methodology

The study incorporated a quantitative research approach, and a quasi-experimental one-group pre and post-test research design. Purposive sampling technique was employed to select 48 nurses working in labor rooms of selected hospitals in Meghalaya. Furthermore, in pursuit of the present inquiry, a meticulously crafted structured knowledge questionnaire was designed to encompass the

multifaceted dimensions of the partograph. Comprising an impressive array of 26 items, this instrument aimed to explore the practitioner's comprehension of this subject matter. Additionally, a comprehensive observation checklist was developed to capture the intricacies of partograph implementation. As an additional resource, an engaging video segment was thoughtfully produced to serve as both a teaching aid and a key intervention tool within the study. Karl Pearson's correlation coefficient approach and the Spearman-Brown formula were used to determine the tool's reliability and the obtained reliability coefficient was 0.94. Ethical considerations were sought from the NSAC (NEIGRIHMS Research and Ethics Committee) and IEC (Institution Ethics Committee) of NEIGRIHMS (North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences). Formal permission was obtained from the Principal of the College of Nursing, NEIGRIHMS, as well as from the Directorate of Health Services (DHS), Shillong, Meghalaya, permission was obtained from Medical Superintendent of selected institutions, prior explanation about the study being conducted was given to the participants and written consent was obtained from the study participants.

### Results and Discussion

#### Findings related to demographic variables of the nurses

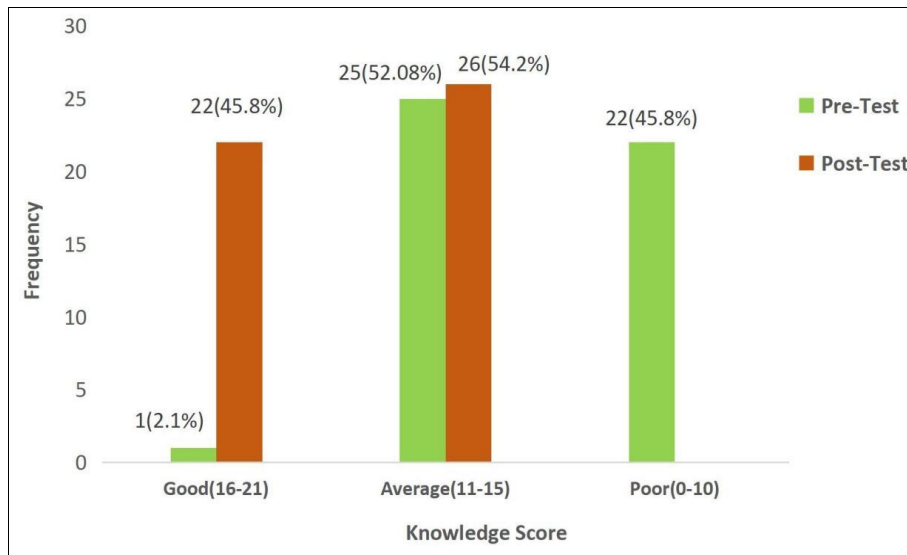
**Table 1:** Frequency and percentage distribution of the nurses according to the socio-demographic variables N = 48

Socio-demographic variables	Frequency (f)	Percentage (%)
<b>Age in years</b>		
20-30	17	35.4
31-40	23	47.9
41-50	07	14.6
≥51	01	02.1
<b>Gender</b>		
Male	05	10.4
Female	43	89.6
<b>Educational Qualification</b>		
ANM	02	04.2
GNM	35	72.9
BSc Nursing / Post-Basic Nursing	11	22.9
<b>Total Experience in Labour Room (in years)</b>		
1-5	26	54.2
6-10	08	16.7
11-15	10	20.8
> 15	04	08.3
<b>Training attended</b>		
No	41	85.4
Yes	07	
<b>Type of training attended</b>		
Dakshata Training	06	12.5
SBA Module	01	2.08

The data presented in Table 1 provides information about the demographic characteristics of nurses working in Labour Rooms. Out of the total 48 nurses, 17 of them (35.4%) fall within the age group of 20-30 years, while 23 nurses (47.9%) are aged between 31-40 years. Additionally, 7 nurses (14.6%) belong to the age group of 41-50 years, and only 1 nurse (2.1%) is aged 51 years or older. When it comes to their educational background, 2 nurses (4.2%) have completed ANM, 35 nurses (72.9%) have completed GNM, and 11 nurses (22.9%) have completed either BSc Nursing or Post-Basic Nursing. Among the nurses, the majority, 43 of them (89.6%), are female, while only 5

nurses (10.4%) are male. Furthermore, 7 participants (14.6%) have attended a training program on Partograph, while the majority, 41 nurses (85.4%), have not attended any training program on Partograph. In terms of experience, 26 nurses (54.2%) have 1-5 years of experience, 8 nurses (16.7%) have 6-10 years of experience, 10 nurses (20.8%) have 11-15 years of experience, and 4 nurses (8.3%) have 15 years or more of experience.

#### Findings related to the pre-test and post-test knowledge and practice score of the participants on partograph



**Fig 1:** Bar diagram representing the pre-test and post-test knowledge score regarding video-assisted teaching programme on partograph among the nurses working in the labor rooms. N = 48

The data presented in Figure 1 reveals that among a total of 48 nurses, a mere 1 individual, which accounts for approximately 2.1% of the participants, demonstrated a commendable level of knowledge in the Pre-Test. On the other hand, the majority of nurses, comprising 25 individuals or approximately 52.1% of the total, possessed an average level of knowledge. A significant proportion of

the nurses, specifically 22 individuals or approximately 45.8%, displayed poor knowledge in the Pre-Test. In the Post-Test, the results indicated that 22 nurses, accounting for approximately 45.8% of the participants, acquired good knowledge, while a similar number of nurses, specifically 25 individuals or approximately 52.1%, maintained an average level of knowledge.

**Table 2:** Mean, Standard Deviations, Paired t-tests value of the pre-test and post-test knowledge score regarding Video-Assisted Teaching Programme on Partograph among the nurses working in the labour rooms N=48

Knowledge score	Score range	Mean	SD	Paired t-test	DF	P value
Pre-Test	0-21	10.9	2.146	14.191	47	≤0.001*
Post-Test	0-21	16.23	1.741			

\*Statistically significant at  $p \leq 0.05$

Table 2 Demonstrate that there is a notable difference in the knowledge scores of nurses before and after participating in the Video-Assisted Teaching Programme on Partograph. This difference was found to be statistically significant, as indicated by a paired t-test value of 14.191 and 47 degrees

of freedom at a significance level  $\leq 0.001$ . These findings suggest that the nurses' knowledge of Partograph improved after participating in the Video-Assisted Teaching Programme.

**Table 3:** The frequency and percentage distribution of the pre-test and post-test practice score for the Video-Assisted Teaching Programme on Partograph among labour room nurses. N=48

Practice	Score range	Pre-Test		Post-Test	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Good Practice	6-10	08	16.7	43	89.6
Poor Practice	0-5	40	83.3	05	10.4

Table 3 provides a comprehensive breakdown of the participants' practice quality, specifically among 48 nurses. In the Pre-Test phase, it was observed that 8 nurses, which constitutes approximately 16.7% of the participants, exhibited good practice, while the majority of the participants, 40 nurses (or approximately 83.3%), demonstrated poor practice. However, in the subsequent

post-test phase, the results were significantly improved. A total of 43 respondents, accounting for approximately 89.6%, were found to have good practice, indicating a notable positive shift. Conversely, only 5 respondents, approximately 10.4% of the participants, still exhibited poor practice, suggesting a considerable improvement overall.

**Table 4:** Mean, Standard Deviations, Paired t-tests value of the pre-test and post-test practice score regarding video-assisted teaching programme on partograph among the nurses working in the labour rooms. N=48

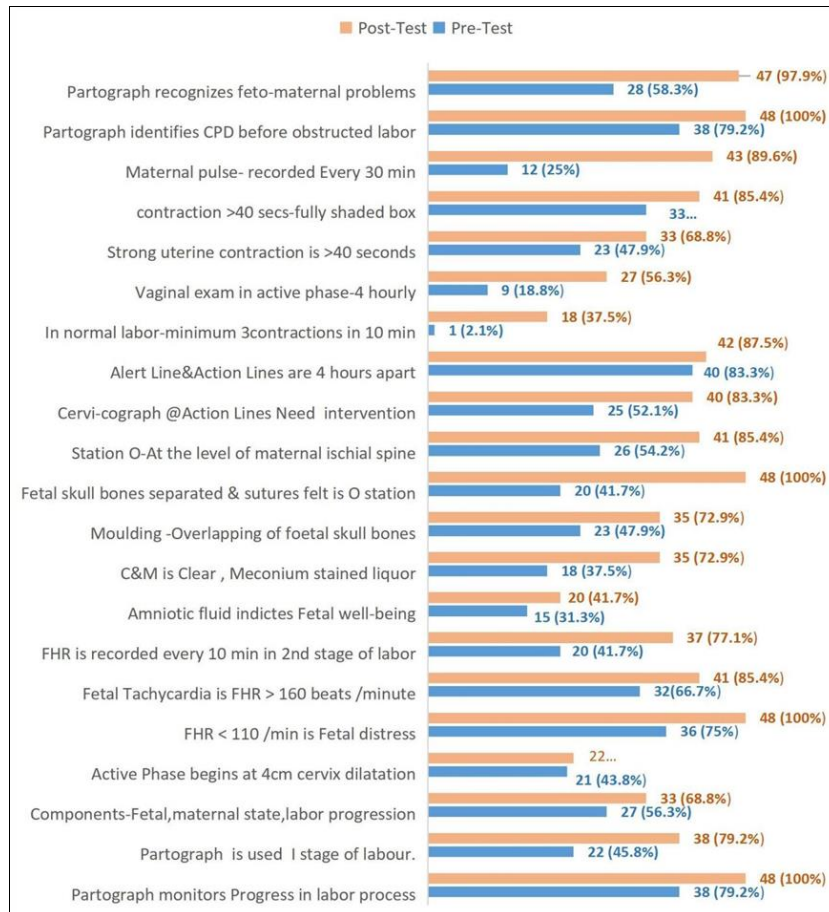
Practice	Score range	Mean	SD	Paired t-test	DF	P value
Pre-Test	0-10	3.65	1.720	12.052	47	≤0.001*
Post-Test	0-10	6.73	1.125			

\*Statistically significant at  $p \leq 0.05$

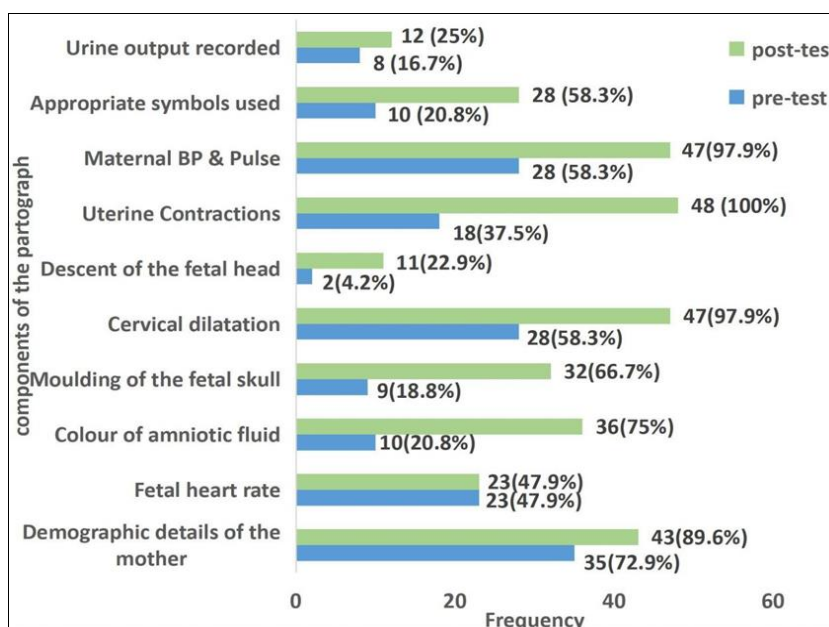
The results from Table 4 indicate that there was a significant difference in the scores of nurses' practice before and after participating in the Video-Assisted Teaching Programme on Partograph. This difference was determined to be statistically significant with a paired t-test value of 12.052 and 47 degrees of freedom at a significance level of less than  $\leq 0.001$ . These findings suggested that the Video-

Assisted Teaching Programme on Partograph effectively improved the nurses' practice in utilizing the Partograph.

**The findings related to frequency and percentage distribution of knowledge scores according to individual components**



**Fig 2:** The frequency and percentage distribution of pre-test and post-test knowledge scores of video-assisted teaching programme nurses on major WHO Partograph components N=48



**Fig 3:** The frequency and percentage distribution of the nurses' pre-test and post-test practice scores on the plotting of the WHO partograph N=48

**Findings related to the association of participants knowledge and practice with selected demographic variables****Table 5:** Association of nurses knowledge score on partograph with selected socio-demographic variables N=48

Socio-demographic variables	Knowledge level			P value
	Poor (1-10)	Average (11-15)	Good (16-21)	
<b>Age in years</b>				
20-30	08	09	0	0.092
31-40	09	14	0	
41-50	05	01	1	
≥51	0	01	0	
<b>Gender</b>				
Male	02	03	0	1.000
Female	20	22	1	
<b>Educational qualification</b>				
ANM	0	02	0	0.55
GNM	18	16	0	
Bsc & Post Basic Nursing	04	07	1	
<b>Total Experience in labour room</b>				
1-5 years	11	15	0	0.022*
6-10 years	01	07	0	
11-15 years	07	02	1	
>15 years	03	01	0	
<b>Any Training programme attended on partograph.</b>				
No	19	21	1	1.000
Yes	03	04		

The results presented in Table 5 indicate that there is no association between the participants' pre-test knowledge of the Partograph and their age, gender, educational qualifications, and the training program they attended. This conclusion is supported by the fact that the value obtained

from the Fisher Exact test is greater than 0.05. However, it is important to note that there is a significant association between the knowledge score and the duration of experience in the labor room, as indicated by the p-value of 0.022.

**Table 6:** Association of the nurses practice on partograph with selected socio-demographic variables N=48

Socio- Demographic Variables	Practice		Good (6-10)	P value
	Poor (0-5)			
<b>Age in years</b>				
20-30	10		7	0.003*
31-40	23		0	
41-50	06		1	
>51	01		0	
<b>Gender</b>				
Female	36		07	1.000
Male	04		01	
<b>Educational qualification</b>				
Anm	02		0	0.174
Gnm	31		04	
BSc & Post Basic Nursing	07		04	
<b>Experience in Labour room</b>				
1-5	20		06	0.384
6-10	07		01	
11-15	10		0	
>15	03		01	
<b>Any Training programme attended on partograph</b>				
Yes	06		01	1.000
No	34		07	

The results presented in Table 6 indicate that there is no association between pre-test practice scores and socio-demographic variables such as gender, educational qualifications, experience in the labour room, and the training programme attended. This conclusion is supported by the fact that the p-value obtained from the Fisher Exact test is greater than the predetermined significance level of 0.05. However, it is worth noting that there is a significant association between pre-test practice score and the age of the nurses, as indicated by the p-value of 0.03.

**Discussion**

In the present study, 47.9% of the nurses were in the age of 31 to 40 years. However, an influential study conducted by Soyam D, Rawat V, Anil K P, and Kumari P (2022) asserted that the preponderance of participants (63.33%; n = 19) lie within the youthful range of 20 to 30 years old [3].

The current study revealed that a majority of the participants, 43 (89.6%) were females. This stands in contrast to a previous study conducted by Teeba MA Saheb and Lamia D Al-Deen in 2017, where all 300 participants

consisted solely of females [4].

In terms of educational qualification, the preponderance of nurses (72.9%) possessed a General Nursing and Midwifery (GNM) qualification, mirroring the findings of a recent inquiry conducted by distinguished researchers Soyam, Rawat, Anil, and Kumari (2022). In their study, a similar majority (73.33%) of nurses held GNM credentials as their educational background [3].

Regarding the years of experience in the labor room, a notable proportion of nurses (54.2%) had accumulated a range of 1-5 years in this field, as observed in the current study. On the other hand, an intriguing discovery from a study conducted by the esteemed Dorathy Devakirubai indicated that a significant majority (41.18%) of nurse midwives had garnered over six years of experience. This valuable insight was shared in the enlightening works of Devakirubai Rebirth, Ebenezer Ellen Benjamin, and Tunny Sebastian [5]. In the current investigation, majority of the nurse, 85.4% surveyed revealed that they had not availed any training sessions regarding the Partograph. Additionally, it was discovered that 25.49% of nurse midwives had participated in in-service education programs specifically dedicated to the Partograph, leaving a substantial 74.51% who had yet to partake in any form of such training. These findings were unveiled in a comprehensive study conducted by the esteemed researchers Dorathy Devakirubai, Devakirubai Rebirth, Ebenezer Ellen Benjamin, and Tunny Sebastian.

In the present study, among 48 nurses it was discovered that only 1 (2.1%) demonstrated good knowledge level, while the majority, 25 (52.08%), possessed an average knowledge, and 22 (45.8%) of the nurses exhibited poor knowledge level. The pre- test revealed a mean score of 10.90, with a standard deviation of 2.146. Furthermore, the study also disclosed that 26(54.2%) of staff nurses had average knowledge while 22(45.08%) had good knowledge whereas no nurse demonstrated poor knowledge in the post test following video-assisted teaching programme. Meanwhile esteemed author R. Manohari conducted a study in 2010, and the analysis of knowledge scores among nurses regarding the utilization of the partograph yielded intriguing findings. 33.3% of the staff nurses had inadequate knowledge, 60% possessed a moderately adequate understanding, and 6.7% exhibited an adequate level of knowledge with a mean score of 17.28 and a standard deviation of 2.79 [6].

In the current study, it was found that 22 (45.8%) of the nurses demonstrated good knowledge of the partograph, additionally, 26(54.1%) of these nurses had an average level of knowledge, while none of the nurses had poor knowledge of the partograph in the post-test., with a mean score of 16.23 and a standard deviation of 1.741. Meanwhile, R. Manohari in the year 2010 conducted a study and none of the staff nurses exhibited poor knowledge, while a considerable 23.3% possessed average knowledge. The majority, comprising 76.7% of the staff nurses, demonstrated a satisfactory level of knowledge, as indicated by a post-test mean of 26.73 and a standard deviation of 2.79 [6].

The findings regarding the nurses' practice of the Partograph demonstrated that, among a group of 48 nurses, 16.7% exhibited good practice in the Pre-Test, while the remaining 83.3% displayed poor practice. However, in the post-test, a significant improvement was observed, with 89.6% of

nurses demonstrating good practice and only 10.4% continuing to exhibit poor practice. Notably, the mean score for the pre-test was 3.65, with a standard deviation of 1.720, whereas the post-test mean score was 6.73, with a standard deviation of 1.125. These results align with a similar study conducted by esteemed authors Dorathy Devakirubai, Devakirubai Rebirth, Ebenezer Ellen Benjamin, and Tunny Sebastian. In their research, they found that, before the intervention, 62.7% of nurse midwives displayed inadequate practice, while the remaining 37.3% exhibited moderately adequate practice. Surprisingly, none of the participants demonstrated adequate practice in the post-test. The mean pre-test score in their study was 43.3, with a standard deviation of 13.6, whereas the post-test mean score was 53.8, with a standard deviation of 13.9.5

Furthermore, when comparing the level of knowledge before and after the intervention, it was discovered that there was a t-value of 14.191 and a p-value of <0.001\*. Similarly, when comparing the level of practice before and after the intervention, a t-value of 12.052 was observed and the p-values were <0.001\*. This demonstrates that the disparity in knowledge and practice scores after the intervention was highly significant. Therefore, the comparison of the means and standard deviations of the pre-test and post-test knowledge and practice scores on the Partograph indicates that the difference in the nurses' knowledge and practice scores in the pre-test and post-test on the Video-Assisted Teaching Programme Partograph was statistically significant. This suggests the Effectiveness of the Video-Assisted Teaching Programme on Partograph in enhancing the nurses' knowledge and improving the nurses practice of the Partograph.

The data regarding the association of nurses' knowledge on partograph with selected socio-demographic variables was analyzed using the Fischer Exact Test. The results indicated that there was no association between the nurses' pre-test knowledge of the Partograph and their age, gender, educational qualifications, and training programme attended. However, there was a significant association between the knowledge score and the duration of experience in the labor room (0.022\*) at a significance level of  $p < 0.05$ . In contrast, a study conducted by Reda R. Ali, Omima M. Abd- Elzaher, Mervat M. Hassan, and Shaimaa G. Hassen at Qena University Hospital in Egypt explored the impact of an educational program on maternity nurses' knowledge of the Partograph. Their findings revealed an association between nurses' age and their overall knowledge in the pre-test, but no association was found between educational qualifications and total knowledge about the Partograph. Furthermore, there was no association between years of experience and the nurses' total knowledge about the Partograph [4].

The data regarding the association of nurses' practice on partograph with selected socio- demographic variables was analyzed using the fischer exact test and indicated that there was no association between pre-test practice scores and gender, educational background, experience in the labor room, or attendance at training programme. However, there was an association between pre-test practice scores and the age of the nurses. In a similar study conducted by Shalu Sharma and Akoijam Mamata Devi, which examined the knowledge and practice of staff nurses regarding the Partograph tool, it was found that there was no association between post-test practice scores and demographic variables

such as age, total work experience, workplace, and educational qualifications, at a significance level of  $p < 0.05$ . However, there was a significant association between in-service education and practice scores, also at a significance level of  $p < 0.05$ .<sup>7</sup>

### Conclusion

The current study reveals that, while the majority of the nurses had average knowledge and practise ability on partograph, the majority of them improved their knowledge and practical skills after implementing the video-assisted teaching programme. Because this study demonstrated its usefulness, it is possible to conclude that the video-assisted teaching technique is extremely effective in acquiring knowledge and increasing the skills of nurses in utilizing Partograph.

### Acknowledgment

My humble and profound gratitude is conferred to Mrs. Jodibala Haobijam, Lecturer, H.O.D (Department of Obstetrics and Gynaecological Nursing), College of Nursing, NEIGRIHMS, my primary guide, has played a vital role in structuring this research study. I am equally grateful to Mr Badondor Shylla, Guest Lecturer, Research and Statistics, College of Nursing, NEIGRIHMS, Meghalaya, my co-guide, for his valuable contributions to this study.

### Conflicts of Interest

There are no conflicts of interest.

### Financial Support

Not available.

### References

1. Ghanghoriya V, Patel K. Study of partogram in relation to labour outcome and significance of alert line in partogram. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*. 2018;7(4):1361. <https://doi:10.18203/2320-1770.ijrcog20180997>
2. Bedada KE, Huluka TK, Bulto GA. Low utilization of partograph and its associated factors among obstetric care providers in governmental health facilities at West Shoa Zone, Central Ethiopia. *International Journal of Reproductive Medicine*. 2020 Jul 17.
3. Soyam D, Rawat V, Parashar AK. Knowledge and practice regarding plotting of Partograph in staff nurses in order to develop and administer a need-based on-the-job training program, Pondicherry Journal of Nursing. Available at: <https://pjn.sbvjournals.com/abstractArticleContentBrowse/PJN/72/15/2/29494/abstractArticle/Article>. Accessed: 08 July 2023.
4. Abd-Elzaher O, *et al*. Effect of educational program about partograph on maternity nurses' knowledge at Qena University Hospital – Egypt. *Assiut Scientific Nursing Journal*. 2021;9(24):1-11. DOI:10.21608/asnj.2020.49953.1074.
5. Rebirth D, Benjamin EE, Sebastian T. Effectiveness of Structured Teaching Programme on the Knowledge and Practice of Partograph among Nurse Midwives. *International Journal of Nursing Education*. 2018 Apr 1, 10(2). Available at:

<https://www.ebsco.com/products/ebscohost-research-platform>

6. Manohari R. A study to evaluate the effectiveness of self-instructional module on partograph in terms of knowledge among the staff nurses working in selected maternity hospitals at Erode. *EPrints@Tamil Nadu Dr MGR Medical University*. Available at: <http://repository-tnmgrmu.ac.in/5612>. Accessed: 08 July 2023.
7. Sharma S, Devi AM. Assess knowledge and practice regarding partograph among staff nurses: Pre experimental study. *Indian Journal of Public Health*. 2019 Aug;10(8):499. Available at: [https://www.researchgate.net/publication/337146189\\_Assess\\_Knowledge\\_and\\_Practice\\_Regarding\\_Partograph\\_among\\_Staff\\_Nurses\\_Pre\\_experimental\\_Study](https://www.researchgate.net/publication/337146189_Assess_Knowledge_and_Practice_Regarding_Partograph_among_Staff_Nurses_Pre_experimental_Study).

#### How to Cite This Article

Rai RK, Haobijam J, Shylla B. Effectiveness of Video-Assisted Teaching Programme on the knowledge and practice of Partograph among nurses working in labor rooms of selected hospitals of Meghalaya. *International Journal of Obstetrics and Gynaecological Nursing* 2024;6(1):24-30.

#### Creative Commons (CC) License

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0) License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.