Volume: 3, Issue: 2
Page: 1-10
YEAR: 2022

ISSN: 2708-4841(Print), 2708-7042 (Online)

Commonwealth Journal of Academic Research (CJAR.EU)

Effect of Intervention Package on Obstetric Care Workers' Skill of Partograph Documentation in Selected Health Facilities in Oyo State, Nigeria

AUTHOR(S): Prof. SOWUNMI, Christiana Olanrewaju. (RN, PhD), OLALERE, Kehinde Olayinka (RN, RM, RME, BNSc., MPH, M.Sc.)

Abstract:

Partograph is a very important tool recommended by the world health organization since 1994 to monitor fetal well-being, maternal well-being, progress of labour and detect early deviations from normal in the active phase of labour. Studies had revealed poor skills of partograph documentation mortality. Hence this study assessed the effect of intervention package on obstetric care workers' skill of partograph documentation in selected health facilities in Oyo state, Nigeria. This study utilized a pretest - post-test quasi experimental research design. The population comprised 120 obstetric care workers in Saki west local government area of Oyo State. A purposive non-probability sampling technique was used to select 48 participants for the study group. The study adopted WHO modified Partograph with case scenario for data collection. Data were collected over four weeks in three sessions of pre-intervention, intervention and post intervention stages. The research questions were analyzed descriptively while the hypothesis was analyzed inferentially with t-test at 0.05 level of significance. The results revealed that at the pre-intervention stage, skill score of parameters documentation on partograph was moderate on maternal condition, fair for fetal condition and fair for progress of labour while at the post-intervention stage, it was good and high for the three parameters. Also, there was significant difference in the pre and post intervention skill score of parameters documentation on partograph of the obstetric care workers (mean difference = 10.55, $t_{(46)} = 7.339$, $p = .000$). The study concluded that the intervention package improved the documentation ability of

CJAR
Accepted 18 December 2021
Published 17 February 2022
DOI: 10.5281/zenodo.6123901

partograph among obstetric care workers. It was recommended among others that obstetric care providers should receive timely on job training so that they regularly have the required skills that are linked to partograph documentation.

Keywords: Intervention Package, Obstetrics Care Workers (OCWs), Skill, Partograph Documentation,

About Author

Author(s):

Prof. SOWUNMI, Christiana Olanrewaju. (RN, PhD*)*
Department of Maternal and Child Health Nursing,
School of Nursing Science,
Babcock University, Ilishan-Remo, Ogun State, Nigeria.

And

OLALERE, Kehinde Olayinka (RN, RM, RME, BNSc., MPH, M.Sc.)
Department of Maternal and Child Health Nursing,
School of Nursing Science,
Babcock University, Ilishan-Remo, Ogun State, Nigeria.

Introduction

Partograph is a pictorial graphical representation of a woman's progress of labour and a warning document signaling complications during labor, it is a very important tool recommended by the world health organization since 1994 to monitor fetal well-being, maternal well-being, progress of labour and detect early deviations from normal in the active phase of labour. Partograph is used to detect and prevent life threatening complications such as prolonged labour in which a women experience obstructed labor, dehydration exhaustion, rupture of the uterus, infection, hemorrhage and death of the mother also neonatal infection and perinatal death (Gupta, et al, 2020).

Poor documentation, poor recording, poor interpretation and non-utilization of partograph to monitor women in the active phase of first stage of labour by many obstetric care workers working in secondary and first level health facilities results in labour prolongation, obstructed labour, dehydration, maternal distress, rupture of the uterus, postpartum haemorrhage, infection, maternal death and still birth, these inadequacies and consequences are closely associated with poor knowledge of partograph. This could be due to lack of on training seminars, workshops on partograph documentation and its use (WHO, 2015; Gupta et al, 2020). Nigeria and India had the highest estimated numbers of maternal death accounting for estimated one third (35%) of estimated global death in 2017 with approximately 67,000 and 35000 maternal deaths that are really preventable (WHO, 2019). Maternal Mortality is an indicator of the overall well-being of a country's health indicators, high MMR is therefore associated with gender inequalities and overall health system dysfunction, it is globally considered an individual tragedy a human right violation and a horrific injustice. Disastrous consequences include infant and child mortality, loss of economic opportunities, spiraling cycles of poverty in the families and community (Mlese & Bekiru, 2019).

The researcher observed a very wide gap between theory and practice. The observation made the researcher enquire about it usage in health facilities with higher percentage of deliveries, papers were brought out with no evidence of utilization. Studies ascertain that non utilization and poor documentation skills exhibited by obstetric care providers is closely related to poor knowledge and poor documentation skills by the obstetric care provider (Obande, et al, 2020). Saki is about 178km to the State Capital Ibadan and counted among the rural communities, though it has all it takes to be called a City, the area is neglected when it comes to Organizing Seminars, Workshops or Updates in Health related matters.

Mandiwa and Zamawe (2017) carried out a research study on documentation of the partograph in assessing the progress of labour by health care providers A total of 1070 partographs that were used to monitor labour in two public hospitals were reviewed to determine the documentation of the parameters of partographs with the objective of determining the degree to which health care workers utilizes partograph while monitoring the progress of labour through assessment of how partograph parameters are documented. The study discovered that out of the 1,070 partographs reviewed, 58.6% (n = 627) of the partographs had no recording of maternal blood pressure and 65.3% (n = 699) of the partographs had no temperature documentation. Moulding was not charted in 25.4% (n = 272) of the partographs, foetal heart rate was not documented in 14.9% (n = 159) of the partographs and descent of the foetal head was not recorded in 12.0% (n = 128) of the partographs. Conclusively, there is poor recording of vital parameters of the partographs. This indicates insufficient monitoring of the progress of labour, which may lead to adverse pregnancy outcomes.

Another cross-sectional study by Khan (2018) on partograph utilization as a decision making tool for referral of abnormal labour in primary health care facilities of Bangladesh. The researcher used multiple data collection methods to extract information from intrapartum case record form, partograph and referral register for all obstetric cases managed in the health facilities. Results documented revealed that a total of 1,198 deliveries were managed at the study centers, partographs were initiated in 98% of these cases. Indication of abnormal labour was found in 71 partographs (11%) and among them, only 1 was referred to a higher-level facility. Foetal heart rate and cervical dilatation were appropriately recorded in 61% and 70% of the partographs, respectively. Interviews with health workers revealed inadequate documentation skill and poor interpretation of referral indications from the partographs.

In view of the above, the study examined the effect of intervention package on obstetric care workers' skill of partograph documentation in selected health facilities in Oyo state, Nigeria. The study specifically:

1. determined the pre-intervention and post intervention mean scores of the participants' knowledge of partograph documentation; and
2. investigated the difference between the pre-intervention and post intervention mean scores on knowledge of partograph documentation.

Research Questions

The following research questions were answered in the study;

1. What is the pre intervention mean score of the participants on skill of partograph documentation?
2. What is the post intervention mean score of the participants on skill of partograph documentation?
3. What is the pre-intervention and post intervention mean scores of the participants' skill of partograph documentation?

Research Hypothesis

The only research hypothesis formulated for the study was;

1. There is no significant difference between the pre-intervention and post intervention mean scores of the obstetric care workers skill of partograph documentation.

Methodology

The study utilized a pretest - post-test quasi experimental research design. The design was considered appropriate because it allowed the trainee to teach other obstetric care workers on partograph documentation skill. The study population consisted of Obstetric care workers in selected health facilities in Saki west local government area of Oyo State. These are skilled obstetric care workers employed in State Hospital Saki-forty two nurses/midwives (42); Muslim Hospital Saki-forty nurses/midwives (40) and Primary Health Care facilities – Eight nurses/midwives (8), fifteen Community Health officers (CHOs,15), ten Community health Extension (CHEW, 10) five ad hoc staff (5ad hoc). A purposive non-probability sampling technique was used to select 48 participants for the study group.

The study employed WHO Modified Partograph with case scenario to generate data. The partograph documentation skill was broken down into three (3) main components- fetal condition, progress of labour and maternal condition. The instrument was subjected to face and content validity, through diligent appraisal and corrections by experts of Tests and Measurement and Nursing Science. The experts expressed acceptance of the instrument to measure the skill of obstetric care workers documentation of partograph.

The researchers visited the health facilities and the supervisory councilor for health for permission to conduct the study. Two research assistants were trained on the procedure for gathering and scoring information on Partograph. Data collection involved three main stages namely pre-intervention, intervention and post-intervention. The quantitative data was coded and analyzed using SPSS version 26. The research questions were analyzed descriptively with percentages, frequencies, and measures of central tendency. The hypothesis was analyzed inferentially with t-test at 0.05 level of significance.

Results

Research Question 1: What is the pre intervention mean score of the participants on skill of partograph documentation?

Table 1: Summary of pre and post intervention skill score of partograph's parameters documentation

The skill scores of partograph	Category of scores	Pre- intervention Correct Responses	
		Freq.	%
Maternal condition	Low (1-3)	19	39.6
	Moderate (4-6)	18	37.5
	High (7-10)	11	22.9
		Mean (%) = 5.21 (52.1); Standard dev. = 4.11	
Progress of labour	Low (1-3)	17	35.4
	Moderate (4-6)	21	43.8
	High (7-10)	10	20.8
		Mean (%) = 4.79 (47.9); Standard dev. = 4.28	
Fetal condition	Low (1-3)	18	37.5
	Moderate (4-6)	22	45.8
	High (7-10)	8	16.7
		Mean (%) = 4.17 (41.7); Standard dev. = 4.32	

Source: Researcher's Field Report 2021

Table 1 presents the pre intervention score, showed that participants in the pre-intervention stage with correct responses in maternal condition had higher mean score/percentage (5.21; 52.1%), followed by progress of labour (4.79; 47.9%) and lastly by fetal condition (4.17; 41.7%).

Research Question 2: What is the post intervention mean score of the participants on skill of partograph documentation?

Table 2: Post intervention skill score of partograph's parameters documentation

The skill scores of partograph	Category of scores	Post- intervention Correct Responses	
		Freq.	%
Maternal condition	Low (1-3)	5	10.4
	Moderate (4-6)	16	33.3

	High (7-10)	27	56.3
		Mean (%) = 7.08 (70.8); Standard dev. = 3.56	
Progress of labour	Low (1-3)	3	6.3
	Moderate (4-6)	13	27.1
	High (7-10)	32	66.6
		Mean (%) = 8.96 (89.6); Standard dev. = 3.33	
Fetal condition	Low (1-3)	10	20.8
	Moderate (4-6)	12	25.0
	High (7-10)	26	54.2
		Mean (%) = 26.81 (79.2); Standard dev. = 3.45	

Source: Researcher's Field Report 2021

At the post-intervention level, the improvement was higher progress of labour (8.96; 89.6%) compared to fetal condition (7.92; 79.2%) and maternal condition (7.08; 70.8%). However, a great improvement occurred at the three levels.

Research Question 3: What is the pre-intervention and post intervention mean scores of the participants' skill of partograph documentation?

Table 3: Summary of the pre and post intervention scores on skill of partograph documentation

The knowledge of partograph	Category of scores	Pre- intervention		Post- intervention	
		Freq.	%	Freq.	%
Poor documentation skill	1-10	40	83.33	-	-
Moderate/Fair documentation skill	11-20	8	16.7	12	25
Good documentation skill:	21-30	-		36	75
Total		48	100.0	48	100.0
Mean score		8.50		21..82	
Standard dev.		2.55		3.45	
Maximum		13.75		28	
Minimum		4		15.25	

Source: Researcher's Field Report 2021

Table 3 presents the pre and post intervention mean score on skill of partograph documentation. At the pre-intervention stage, skill of partograph documentation scores among the obstetric care workers revealed 16.7% had moderate/Fair documentation skill 83.33 had poor documentation skill. The obstetric care workers' general skill of partograph documentation at pre-intervention level shows that they have a mean score of 8.50. Thus, it could be said that the obstetric care workers' mean score on skills of partograph documentation before intervention was poor.

On the other hand, the post-intervention score on the skill of partograph documentation; it was revealed that the skill of partograph documentation was improved as 75% of the participants had good documentation skill of partograph. Thus, it could be said

that the obstetric care workers' skill of partograph documentation mean score (21.82) after intervention was good. This is equally shown in the mean plot in Figure i.

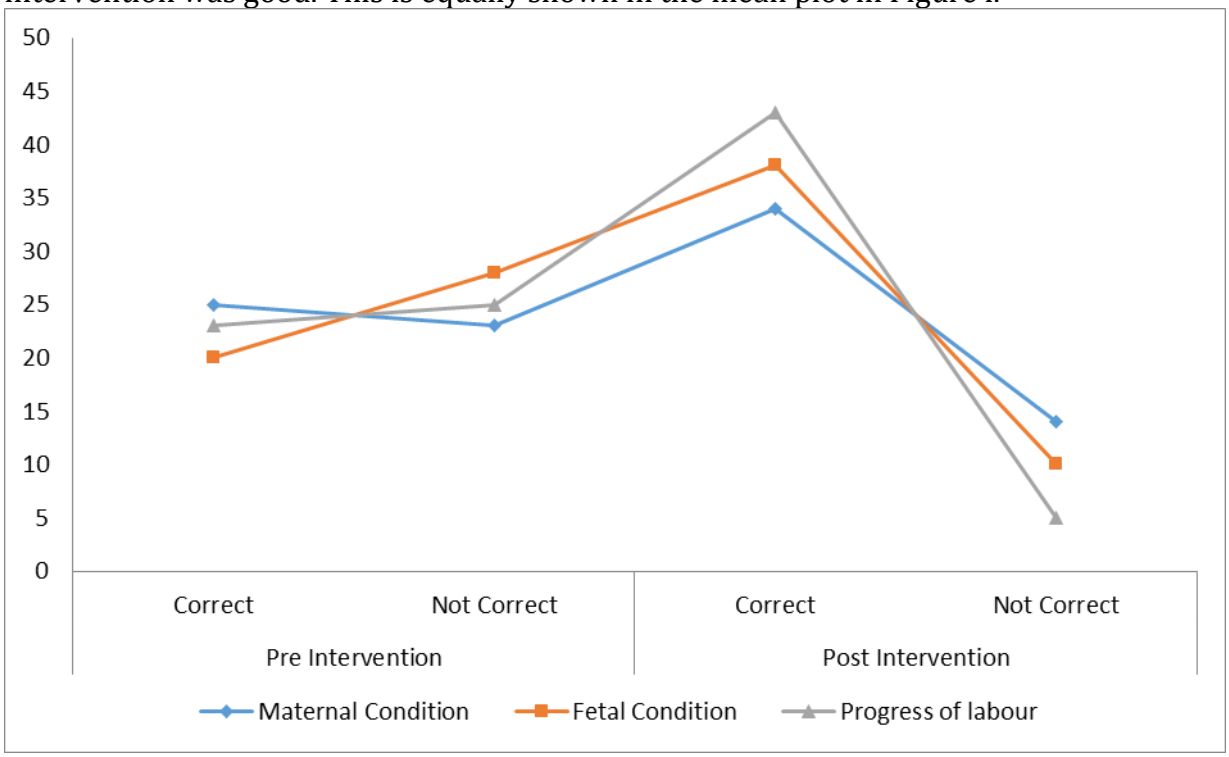

Figure i: Pre and post intervention skill score of partograph's parameters documentation

Test of Hypothesis

Ho1: There is no significant difference between the pre-intervention and post intervention mean scores of the obstetric care workers skill of partograph documentation.

Table 4: Independent t-test to shows the difference between the pre and post intervention skill score of parameters documentation on partograph of the obstetric care workers

	N	Mean	Std. Deviation	Std. Error Mean	df	T	Mean diff	Sig
Pretest	48	13.88	5.23	1.006	46	7.339	10.55	.000
Posttest	48	24.43	4.39	.557				

Results in Table 4 indicated a significant difference in the pre and post intervention skill score of parameters documentation on partograph of the obstetric care workers (mean difference = 10.55, $t_{(46)} = 7.339$, $p = .000$). Based on this, the earlier set hypothesis that stated "There is no significant difference between the pre and post intervention skill score of parameters documentation on partograph of the obstetric care workers" is rejected. Therefore, there is a significant difference between the pre and post intervention skill score of parameters documentation on partograph of the obstetric care workers. It could be deduced from this finding that the difference observed in the pre and post intervention skill score of parameters documentation on partograph of the obstetric care workers could not have been by chance but as a result of the educational intervention the participants were exposed to. Going through the knowledge mean scores as shown above, one can say that the mean score (24.43) at post intervention is significantly higher than the pre-intervention score of (13.88).

Discussion of Findings

The study showed that the pre-intervention score of parameters documentation on partograph showed that 25 (52.1%) majority have moderate skill on maternal condition (biodata, temperature, pulse, blood pressure, and urine test); 20 (41.7%) had fair skill on fetal condition (fetal heart rate, membrane, and moulding); and 23 (47.9%) had fair skill on progress of labour (cervical, descent of fetal head, and contraction per 10 minutes). The pre-intervention skill score of parameters documentation on partograph showed that barely half of the participants have moderate skill on maternal condition. Also, majority have fair skill on fetal condition and progress of labour. This result is not too surprising because the gap in the knowledge of documentation on partograph is equally reflecting on the skills of documentation parameters on partograph. This is in line with Adele (2017) that there is wide gap between theory and practice while identifying factors affecting utilization of partograph among student midwives, also Markos and Bogale (2018)'s study established poor documentation ability on the modified World Health Organization partograph by the health care professionals during labour.

However, the post-intervention score of parameters documentation on partograph showed that 34 (70.8%) majority have good skill on maternal condition (biodata, temperature, pulse, blood pressure, and urine test); 38 (79.2%) had good skill on fetal condition (fetal heart rate, membrane, and moulding); and 43 (89.6%) had good skill on progress of labour (cervical, descent of fetal head, and contraction per 10 minutes). The post-intervention skill score of parameters documentation on partograph showed a great improvement on the obstetric care workers skills. Also, at the post-intervention level, the improvement was higher in progress of labour compared to fetal condition and maternal condition.

The study revealed a significant difference in the pre and post intervention skill score of parameters documentation on partograph of the obstetric care workers. It could be deduced from this finding that the difference observed in the pre and post intervention skill score of parameters documentation on partograph of the obstetric care workers could not have been by chance but as a result of the educational intervention the participants were exposed to. This implies that a nurse-led educational intervention significantly and positively improved the skill of partograph documentation among the obstetric health workers. This result is in line with the findings of Obande, et al (2020) on the effect of nursing intervention on knowledge and use of partograph among obstetric care providers in primary health care centers of Gwagwalada, Abuja. They reported an improvement in use of partograph among obstetric care providers in primary health care centers after intervention.

Summary of Findings

1. At the pre-intervention stage, skill score of parameters documentation on partograph showed that:
    a) 25 (52.1%) majority have moderate skill on maternal condition (biodata, temperature, pulse, blood pressure, and urine test);
    b) 20 (41.7%) had fair skill on fetal condition (fetal heart rate, membrane, and moulding); and
    c) 23 (47.9%) had fair skill on progress of labour (cervical, descent of fetal head, and contraction per 10 minutes).
2. At the post-intervention, the skill score of parameters documentation on partograph showed that:
    a) 34 (70.8%) participants have good skill on maternal condition (biodata, temperature, pulse, blood pressure, and urine test);

b) 38 (79.2%) had good skill on fetal condition (fetal heart rate, membrane, and moulding); and
c) 43 (89.6%) had good skill on progress of labour (cervical, descent of fetal head, and contraction per 10 minutes).

3. There was significant difference in the pre and post intervention skill score of parameters documentation on partograph of the obstetric care workers (mean difference = 10.55, $t_{(46)} = 7.339$, $p = .000$).

Conclusion

The study concludes that the intervention package improved the documentation ability of partograph among obstetric care workers. Effects of this intervention on the obstetric care workers' documentation skill on partograph were achieved.

Recommendations

Based on the findings of this study, the following recommendations were made;

1. Obstetric care providers should receive timely on job training so that they regularly have the required skills that are linked to partograph documentation. This can be done through organizing for periodic workshops and seminars on the use of partogram in assessment and monitoring of women in labour through continuous medical education.
2. It is imperative that the persisting problem of staff shortages be prioritized and urgently addressed. The hospital administrators should make this simple, cost-effective, labour-monitoring chart readily available to these obstetric caregivers at all times and make its routine use mandatory in all patients admitted with a diagnosis of labour.
3. The head of the obstetric units should work closely with health administrators to ensure regular supply of partograph papers in labor wards and timely procurement of materials necessary in labor wards in order to improve utilization of partograph in management of women in labor.
4. The recommended ratio of nurse to mother in labour should be 1:1, this allows nurses to monitor mothers in labor in every 30 minutes for fetal heart rate and every 4 hours for cervical dilatation and be able to document all the details on the partograph.

References

Adele, K.A. (2017). Factors affecting the utilization of partograph among student midwives in selected hospitals Saki. Unpublished research study presented to the Nursing and Midwifery Council of Nigeria

Gupta, M.K. Ragha P., Gautam V., Bhardwaj P., Rustagi N., Naveen K.H & Gothwal M., (2020). Steering the predictors to improve the knowledge and utilization of partograph by skilled birth attendants: an intervention study. *J family med prim (serial online),* 9:3082-3089. Available from; https://www.jfmpc.com/text.asp retrieved on 5/1/2021.

Khan, A.N. (2018) A cross-sectional study of partograph utilization as a decision making tool for referral of abnormal labour in primary health care facilities of Bangladesh. Plos One, 13(9), 203 - 217

Mandiwa, C. & Zamawe C., (2017). Documentation of the partograph in assessing the progress of labour by health care providers in Malawi South West zone. *Journal of Evolution of Medicine and Dental Sciences, 2*(23), 4373-4379

Markos, D. & Bogale, D., (2018). Documentation Status of The Modified WHO Partograph in Public Health Institutions of Bale Zone, Ethiopia. *Reproduction Health* 12(1), 78 – 89.

Mlese, K.G., & Bekiru E.T, (2019). Knowledge of partograph utilization and its associate (factors: a cross sectional survey in Wolait zone Southern Ethiopia. *International journal of nursing and midwifery,* 11(1), 1-6

Obande, E.I., Sowunmi C.O & Obande J.O, (2020) Knowledge of partograph among obstetric care providers in gwagwalada primary healthcare centre, Abuja Nigeria; An intervention approach EAS. *Journal of nursing and midwifery* 2(3), 78 – 86

World Health Organisation (2019). Trends in maternal mortality 2000-2017: estimates by WHO, UNIVEF, UNFPA, World Bank Group and the United Nations population division. Geneva. Available at https://creativecommons.org/license.by-a.nc.sa/3.0/igo.

World health organization (2015). Preventing prolonged labour. Partograph in the management of labour. *published by Elsevier ltd.* www.sciencedirect.com

Cite this article:

Author(s), Prof. SOWUNMI, Christiana Olanrewaju. (RN, PhD*),* OLALERE, Kehinde Olayinka (RN, RM, RME, BNSc., MPH, M.Sc.), (2022). **"**Effect of Intervention Package on Obstetric Care Workers' Skill of Partograph Documentation in Selected Health Facilities in Oyo State, Nigeria"***, Name of the Journal:*** Commonwealth Journal of Academic Research, (CJAR.EU), P, 1- 10. DOI: http://doi.org/10.5281/zenodo.6123901, Issue: 2, Vol.: 3, Article: 1, Month: February, Year: 2022. Retrieved from https://www.cjar.eu/all-issues/

Published by

AND

ThoughtWares Consulting & Multi Services International (TWCMSI)