Plotting of Partograph in View of Assessing its Implementation among the Nurses of Labour Room in Selected Hospitals at Vadodara

Rita Thapa, Sijo Koshy

Abstract: *Background: The partograph provides information about deviations from the normal progress of labour and about abnormalities of maternal or fetal condition during labour. It alerts providers when a woman may need an intervention and facilitates ongoing evaluation of the effects of those interventions. There is a need to improve the knowledge on plotting of partograph as recording the progress of labour and motivate them to maintain partograph for a woman in labour as a routine practice for early detection of abnormal progress of labour, and appropriate clinical responses. Aims and objectives: To assess the existing knowledge regarding plotting of partograph among the nurses of labour room. To evaluate the implementation of plotting of partograph among the nurses of labourroom. To assess the correlation between the knowledge scores and implementation scores. To assess the correlation between the knowledge scores and implementation scores. Material and method: A descriptive research approach was used and pre-experimental research design was used. A structured questionnaire was prepared and used to collect the data to assess the level of knowledge and practice checklist was used to assess the implementation scores. The investigator obtained written consent from the concerned authority before the study. Results: Knowledge level of respondents shows that 63% had moderate knowledge and 37% had adequate knowledge. Practice level of nurses on Plotting of Partograph shows that 20% has low knowledge and 80% has moderate knowledge and no score for high practice level. Coefficient correlation of knowledge and practice scores is 0.797 which is significant at 5% level. Hence, research hypothesis H1 is accepted. The association between knowledge scores and selected demographic variables, age group chi square value is 10.82 (p<0.05) which is significant. The chi square value was significant (x2= 4.41) at p<0.05 level for the gender and marital status. For the Educational qualification chi square value is9.49 at (p<0.05) which is significant. In years of experience and source of information the chi square value is 2.24 and 0.92 at (p<0.05) is not significant. Hence, research hypothesis H2 is partially accepted. Conclusion: Majority 63% of the samples have moderate knowledge scores whereas 80% has moderate practice level and no score for high practice level and Coefficient correlation of knowledge and practice scores is 0.797 which is significant at 5% level. Further interventional studies can be implicated for adequate knowledge and high practice skills.*

Keywords: Plotting of Partograph, implication, nurses of labor room

1. Introduction

Labour has been termed the most dangerous journey a human ever under takes. The reason being that although it is a natural process but complications can arise at any time during its course. One of the tools used to monitor labour and prevent prolonged and obstructed labour is the partograph, a preprinted one-page form on which labour observations are recorded. The purpose of the partograph is to help health care providers record, interpret, analyze, and use data to make clinical management decisions while labour is in progress. The form (which is an early warning system) provides a graphic overview of the progress of labour and records information about maternal and fetal condition during labour. When the partograph is used effectively it will prevent prolonged or obstructed labour, which accounts for about 8% of maternal deaths. The majority of the deaths and complications could be prevented by cost-effective and affordable health interventions like the partograph and indeed the same measures that would prevent maternal deaths would also prevent morbidity and improve neonatal outcome.

2. Background of the Study

The partograph is a pre-printed paper with a visual/graphical representation of observations made on a woman and foetus during the course of labour. The observations are comprised of the progress of labour, maternal vital signs and foetal heart condition. These observations are displayed on the partograph for easy and quick review of ongoing labour and timing of management decisions. It's a tool for risk assessment and is effective in detecting abnormal labour during the first stage of labour. The partograph helps to identify problems and interventions can be timely initiated thereby preventing morbidity and mortality. The graph is plotted from when the woman is in active phase of labour.

3. Need for the Study

Pregnancy and labour are unpredictable events that, if not monitored properly can result in a disabled or a fatal state. In developing countries, pregnancy, childbirth and their consequences are still the leading causes of death, disease and disability among women of reproductive age. Over 300 million women in the developing world suffer from short term or long term illness brought by pregnancy and child birth and 5,29,000 die each year.

Each year of the 210 million women becoming pregnant, 20 million will experience pregnancy-related illnesses and 5,00,000 will die due to complications of pregnancy or childbirth. The maternal mortality ratio in India is about 407 per 1,00,000 term births and maternal mortality rate is 120 per 1,00,000 women. The important causes of maternal deaths are haemorrhage, infection, pre-eclampsia, eclampsia, unsafe abortion, obstructed labour, anaemia, hepatitis etc. In this obstructed labour contribute about 8%.

Obstructed labour is one where in spite of good uterine contractions the progressive descent of the presenting part is arrested due to mechanical obstruction. Antenatal detection

Paper ID: ART20163556

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of the factors likely to produce prolonged labour (big baby, small women, malpresentation and position), continuous vigilance during intranatal period, and use of partogram helps to prevent obstructed labour. The main proven intervention for obstructed labour is the use of partograph. Partograph is a tool graphically representing key events during labour. The partograph is used to plot the following parameters for progress of labour: cervical dilatation, descent of foetal head, uterine contractions, foetal heart rate, membranes, liquor and moulding of foetal skull. Additionally, the partograph can be used to monitor pulse, blood pressure, temperature, urine, drugs, IV fluids and oxytocin. This tool is recommended for routine monitoring of labour as an early warning system. It helps to diagnose slow progress of labour and thus helps to prevent obstructed labour.

4. Statement of the Problem

"A study to assess the knowledge regarding plotting of partograph in view of assessing its implementation among the nurses of labour room in selected hospitals at Vadodara."

Objectives of the Study

The objectives of the research are:
1) To assess the existing knowledge regarding plotting of partograph among the nurses of labour room.
2) To evaluate the implementation of plotting of partograph among the nurses of labour room.
3) To assess the knowledge scores regarding plotting of partograph with the selected demographic variables of the nurses of labour room.
4) To assess the correlation between the knowledge scores and implementation scores.

Hypothesis
H_0: There will be no significant association between knowledge scores and selected demographic variables.
H1: There will be a significant correlation between the knowledge scores and implementation scores.

Variables
Dependent variables: Knowledge and practice of nurses.
Demographic variables: The demographic variables are age, gender, marital status, educational qualification, years of experience, source of information.

Assumption
1) Nurses may have some knowledge regarding plotting of partograph.
2) Adequate knowledge regarding plotting of partograph helps the nurses to prevent complications during labour.
3) Knowledge regarding plotting of partograph helps the nurses in implementation

Delimitations
The study is limited to:
1) Nurses who are working in labour room.
2) Who are willing to take part in the study.
3) Students who are available at the time of data collection.

Research Methodology
- Research approach: Descriptive research approach was consider appropriate.
- Research design: pre-experimental research design. The design did not include any control group.
- Variables : Independent variables: Demographic variables of nurses
  Dependent variable: Knowledge and practice of nurses
- Setting: The study is conducted in three Hospitals of Vadodara, Dhiraj General Hospitals, Jamnabai Hospital, S.S.G. Hospital, Vadodara, Gujarat.
- Sample size & technique - 60 nurses in labour room and the sampling technique – non probability convenient sampling technique.
- Population - Nurses in selected hospitals at Vadodara

Criteria for Sample Selection
Inclusion criteria
- Nurses who are working in labour room.
- Nurses who are willing to take part in the study.
- Nurses who are available at the time of data collection.

Exclusion criteria
- Nurses who are working in hospital, where partograph is not maintained.
- Nurses who have not attended training on plotting of partograph.

Data Collection Techniques and Instruments
This study aimed at evaluating the knowledge and practice regarding plotting of partograph among nursess in selected Hospitals at Vadodara hence a self-reported structured questionnaire and checklist was used for collection of data. Questionnaire is considered to be the most efficient and objective method which is quick and generally inexpensive means of obtaining data from a large number of respondents.

Description of Tool
Deals with the baseline data of the samples it consists of 2 parts:-

Tool I - The Demographic Data Collection Tool.
Questionnarie for demographic data collection tool that areage, gender, marital status, educational qualification, years of experience, source of information.

Tool II- Knowledge regarding plotting of partograph
The investigator prepared this tool based on the objective of the study to assess the knowledge regarding plotting of partograph among the nurses from selected hospitals of Vadodara. This Scale consist 25 statements to measure the level of knowledge regarding plotting of partograph. Total 25 statements comprising introduction, components and importance of partograph.

Tool III- Checklist on implementation of partograph
The checklist is divided into three components.
- In Patient identification, maximum score is 7 marks and minimum score is 0 marks.
- In Fetal components, maximum score is 3 marks and minimum score is 0 marks.

- In Maternal components, maximum score is 10 marks and minimum score is 0 marks.

Scoring Procedure
Multiple choice knowledge questionnaires will be prepared and scoring is given according to answer.
If answer is correct – 1 mark and if answer is wrong – 0 mark. The total minimum and maximum score of knowledge assessment found to be 'zero' and '25'.

Inference will be drawn as below.
- Poor knowledge level : Score less than 25%
- Average knowledge level : Score between 25 – 50%
- Good knowledge level : Score between 50 – 75%
- Excellent knowledge level : Score more than 75%

Validity
To ensure the content validity of the prepared tool, it was submitted to the experts. Permission for tool validation was obtained by sending requisition letter and acceptance form. The validators were requested to give their opinion to the appropriateness; accuracy and relevance of the items of the tool and planned teaching content in terms of strongly agree. The recommendations and suggestions of the experts were considered to modify the items of tool as well the content of structured teaching programme.

Reliability
Co-efficient correlation was found 0.87 which indicated the high degree of reliability of the tool. Thus the tool was reliable.

Pilot Study
A sample of 6 nurses from selected hospitals of Vadodara choose from the main population who fulfilled the inclusive criteria. Structured questionnaire was provided to assess the level of knowledge and checklist to assess the implementation regarding plotting of partograph among nurses from selected hospitals of Vadodara. The purpose of the pilot study is to find out the feasibility and practicability for the study.

Data Collection Procedure
A formal permission obtained from the concerned authority. The data collection was done within a given period of 6 months. After a brief self introduction and establishing the rapport, the investigator had given brief details about the nature of the study and a written consent was obtained from the sample and confidentiality of the responses was assured. Structured knowledge questionnaire was administered to each sample to assess the knowledge level. The implementation assessed by using a checklist of partograph. Nurses made to feel comfortable and relaxed. A good rapport was maintained. On the first day, the data was obtained using the structured questionnaires. On the same day the practice was assessed with checklist.

Presentation of Data
To begin with the data was entered in master sheet for tabulation and statistical processing. The analysis of data was organized and represented under the following sections.

Part I: Analysis of demographic characteristics of the nurses.

Part II a: Analysis of overall and aspect wise knowledge scores of nurses on plotting of partograph.
- Section A: Classification of nurses knowledge level on plotting of partograph
- Section B: Overall mean knowledge scores of nurses on plotting of partograph
- Section C: Aspect wise mean knowledge scores of nurses on plotting of partograph.

Part II b: Overall and aspect wise practice scores of nurses on plotting of partograph
- Section A: Classification of nurses of practice level on plotting of partograph
- Section B: Overall mean practice scores of nurses on plotting of partograph
- Section C: Aspect wise mean practice scores of nurses on plotting of partograph

Part II c: Relationship between knowledge and practice of nurses on plotting of partograph

Part III: Association between demographic variables and knowledge and practice level on plotting of partograph
- Section A: Association between demographic variables and knowledge level on plotting of partograph
- Section B: Association between demographic variables and practice level on plotting of partograph

5. Analysis and Interpretation

Table 1: Aspect wise Mean Knowledge scores of Respondents on Plotting of Partograph, N=60

| No. | Knowledge Aspects | Statements | Max. Score | Respondents Knowledge | | | |
				Mean	SD	Mean (%)	SD (%)
I	Introduction of Partograph	4	4	2.78	0.8	69.6	20.5
II	Components of Partograph	13	13	8.98	1.2	69.1	9.5
III	Importance of Partograph	8	8	5.80	1.0	72.5	12.7
	Combined	25	25	17.57	2.1	70.3	8.4

Aspect wise mean knowledge scores of respondents onPlotting of Partograph shows that in Introduction of Partograph mean is 2.78 and SD is 0.8, in Components of Partograph mean is 8.98 and SD is 1.2, in Importance of Partograph mean is 5.8 and SD is 01 and overall mean is 17.57 and SD is 2.1.

Table 2: Aspect wise Mean Practice scores of Respondents on Plotting of Partograph, N=60

| No. | Practice Aspects | Statements | Max. Score | Respondents Practice | | | |
				Mean	SD	Mean (%)	SD (%)
I	Patient Identification	7	7	5.62	0.7	80.2	9.8
II	Fetal Components	3	3	1.07	0.5	35.6	17.1
III	Maternal components	10	10	5.22	1.3	52.2	12.9
	Combined	20	20	11.90	1.5	59.5	7.7

Aspect wise mean and SD on practice scores of respondents shows that in patient identification mean is 5.62 and SD is

0.7, in Fetal Components mean is 1.07 and SD is 0.5, in Maternal components mean is 5.22 and SD is 1.5.

Section – 2c: Relationship between Knowledge and Practice of Respondents on Plotting of Partograph

Table 3: Correlation coefficient between Knowledge and Practice on Plotting of Partograph, N=60

Aspects	Max. Score	Response				Correlation coefficient (r)
		Mean	SD	Mean (%)	SD (%)	
Knowledge	25	17.57	2.1	70.3	8.4	
Practice	20	11.90	1.5	59.5	7.7	+ 0.797*

* Significant at 5% level,

Coefficient correlation of knowledge and practice scores is 0.797 which is significant at 5% level. Hence, stated research hypothesis H_1 is accepted.

6. Results

Knowledge level of respondents shows that 63% had moderate knowledge and 37% had adequate knowledge. Practice level of nurses on Plotting of Partograph shows that 20% has low knowledge and 80% has moderate knowledge and no score for high practice level. Coefficient correlation of knowledge and practice scores is 0.797 which is significant at 5% level. Hence, research hypothesis H_1 is accepted.

7. Limitations of the Study

1) Sample was selected only from Vadodara District hence generalization can only be made for the sample studied.
2) The study did not have any knowledge improvement.

8. Recommendations

Based on the findings of the present study recommendations offered for the future study are:
1) Similar study can be conducted on a larger sample to generalize finding.
2) A comparative study can be conducted with control group.
3) Study can be conducted to assess the effectiveness of teaching.

9. Ethical Consideration

Ethical clearance obtained from the ethical committee of Sumandeep Vidyapeeth and willingness obtained from the subject before data collected.

10. "Conflicts of Interest" and Source of Funding

The authors report no conflict of interest and budget used for this study, was provided by the institutions.

11. Conclusion

The outcome of aspect wise mean knowledge scores of respondents shows assessing its implication on Plotting of Partograph.

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