Research Article

Student's perceptions and outcome following training in WHO Modified Partograph

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Abstract

Background: Partograph is a WHO recommended tool used for assessing the progress of labour and condition of mother and fetus. Lack of training about this useful tool results in increase in incidence of prolong labour and its complications.
Objectives: To assess the effect of training on knowledge and skills of the students in use of WHO Modified Partograph.
Material and methods- An educational interventional study was carried out in twenty five post graduate students in Obstetrics and Gynecology. A pre and post test was conducted to assess the knowledge and skills of postgraduate students about partograph, by using pre-validated and pre tested multiple choice questions and five OSCE stations. Five training sessions, including lectures, group work and group presentation, each lasting for two hours duration, were conducted. Statistical analysis was done using Paired t test and Wilcoxon Signed Rank test. Level of satisfaction of residents about this innovative method of teaching and learning was assessed through 5 point Likert scale.
Results: The mean value for pre and post test scores for MCQ test was 36.96 and 38.48 respectively. There was statistically significant improvement (p value <0.001) in skills after the training programme. The mean value for pre and post test scores for OSCE test was 37.48 and 43.20 respectively. The 95% confidence interval for pre and post test OSCE scores was 34.15 and 41.20 at its lower bound. Student's feedback on the training programme revealed gross satisfaction.
Conclusion- Training of postgraduate students in use of partograph in monitoring of labour was effective.
Keywords: Prolong labour, perinatal morbidity, perinatal mortality, Training needs of residents, WHO Modified Partograph

1. Introduction

Partograph is a WHO recommended tool used for assessing the progress of labour and condition of mother and fetus. [1-3]Residents in Obstetrics and Gynaecology are expected to have sound knowledge about the partograph and its interpretation for early identification of labour abnormalities. Lack of training of postgraduate students in use of WHO Modified Partograph for monitoring the progress of labour was responsible for increase incidence of prolonged labour and its complications. Training of health care workers, doctors and midwives in use of partograph has been found to be useful in reducing the incidence of prolong labour through early identification of labour abnormalities.[1-5]

1.1 Needs Assessment

The needs assessment for training of postgraduate students in use of partograph for monitoring of labour was done through interview of postgraduate students, faculty members and document analysis of delivery records. It revealed that less than 20% of labour cases were monitored with the help of WHO modified partograph.

1.2 Goal

To achieve reduction in maternal morbidity and perinatal mortality related to prolonged labour, by training postgraduate students in Obstetrics and Gynecology in "WHO Modified Partograph and its use" for monitoring progress of labour.

1.3 Specific Objectives

i. To assess the change in the knowledge of postgraduate students regarding WHO modified Partograph and its usefulness in monitoring of labour, before and after the training.
ii. To evaluate the skill development of postgraduate students in use and interpretation of the WHO modified Partograph after the training.

2. Methodology

An educational interventional study was carried out in the department of Obstetrics and Gynaecology of Rural Medical College, Loni for a period of one year.

i. Preparation and submission of study proposal- The proposal was revised through incorporation of the suggestions received from FAIMER faculty and co mentors.
ii. Advocacy meeting with stakeholders- (Head of the department, Principal Rural medical College, Director-Research Cell, Chairman-Institutional ethical committee etc.)
iii. Submission of proposal for institutional ethical approval - Proposal was submitted in prescribed format through Head of the dept and Principal.
iv. Logistic arrangement for training programme- Preparation of training programme and training material, Setting up of MCQ for pre and post test, OSCE stations for pre and post tests, Training material for group activity ,Material for class room teaching etc),Check list for assessment, Feedback forms, Consent forms.
v. Assessment of the content validity of the training material and reliability of evaluation tools (check lists). It was done at other medical college with the help of subject experts and postgraduate students. Necessary changes were made in the tools.

vi.   Training of trainers- One faculty member from the department was briefed about the objectives of the training and was involved in providing support in conduction of pre test, training and post test.
vii. Pretest of postgraduate students- Was performed with the help of pretested and validated MCQ test (50 marks) and five OSCE stations (50 marks). Knowledge component of 25 postgraduate students about WHO modified Partograph and its usefulness in monitoring the progress of labour was assessed through MCQ test and their skill in correctly using and interpreting the partograph was assessed through five OSCE stations.
viii. Training of postgraduate students- It comprised of three lectures on topics related to the study subject. Students were given small group activity related to interpretation of pre filled partographs and were asked to present the findings in front of the group. All training sessions were conducted as planned.
ix.   Post test was performed with same MCQ-test and five OSCE stations used in pre test.
x.   Student's feedback was obtained about the training programme. At the end of the training programme, student's feedback on various aspects of training was obtained through a questionnaire. Ten statements were offered about the their experience with the programme to which the students could respond using a 5- point Likert scale from Strongly agree to Strongly disagree. Students were also asked to give suggestions for the course, for improvements, additions and deletions.

2.1 Evaluation
2.1.1 Process and Performance Indicators
i.   Twenty five out of thirty postgraduate students enrolled in the study had consented for participation in pre test, training and post test. Document analysis revealed that all training sessions were conducted as per the schedule. There was no deviation from proposed training plan. There was no dropout of any trainee in the study. It was assessed through attendance register. There was availability of necessary logistic support for conduct of training activity.
ii. The contents of MCQ test and OSCE stations were validated and the reliability of assessment tools was confirmed through opinion of three experts in the subject.
iii. Document analysis in respect to the performance of students in MCQ test was used to assess whether the training resulted in improvement in the knowledge of the postgraduate students regarding the need and usefulness of the training in partograph for monitoring of labour.
iv. Document analysis in respect to the performance of postgraduate students in two OSCE stations was used to assess whether the training resulted in improvement in the skill of the postgraduate students in using (filling) the partograph.
v.   Document analysis in respect to the performance of students in three OSCE stations was used to assess whether the training resulted in improvement in the analytical skill in interpretation of normal and abnormal partograph.

2.2 Statistical Analysis
The pre and post test scores of MCQ and OSCE stations were compiled and analyzed using Paired t test and Wilcoxon Signed Rank test with the help of SPSS software, version 16. Results were compared to assess the impact of training on knowledge and skill of residents. Level of satisfaction of residents about this innovative method of teaching and learning was assessed through 5 point Likert scale.

3. Observations and Results
Of the 30 postgraduate students assigned to the teaching session, five were unable to attend because of urgent patient care responsibilities requiring their attention or because of other scheduling problems. In spite of very busy schedule, postgraduate students participated in the training programme and appeared in pre and post test. They were very proactive during whole training programme.

Pre and post test scores were compared to find out the difference in the score. Training programme resulted in improvement in the knowledge of residents on Partograph in regards to its usefulness in early detection of labour abnormalities. The mean value for pre and post test scores for MCQ test was 36.96 and 38.48 respectively. There was statistically significant improvement (p value <0.001) in skills after the training programme. **(Fig.1 and 3)** The mean value for pre and post test scores for OSCE test was 37.48 and 43.20 respectively. The 95% confidence interval for pre and post test OSCE scores was 34.15 and 41.20 at its lower bound. **(Fig. 2 and 4)**The improvement in the knowledge and skill was more among senior residents (second and third year) as compared to their junior colleagues (first year).

The responses to the five point Likert scale were analyzed. **(Fig.5).** There was strong agreement to statement no 1,2,6,9 and 10.Residents agreed to the statement no 3,5,7, and 8. The students gave neutral response to statement no 3 and 4. Overall, residents expressed happiness about the contents and conduct of the training programme. They were very proactive during training session and in group activity. They were exposed to OSCE stations for the first time and were very happy about the experience.

Many residents gave feedback stating that the course refreshed their knowledge about management of labour, helped them to understand use and interpretation of partograph, improved their confidence level in decision making, reduced fear and apprehension regarding risk of adverse outcome in abnormal labour, Residents expressed happiness regarding this newer teaching methodology. (5 point Likert Scale) Residents suggested that similar training programmes with more duration be conducted frequently in future. Some residents confessed that they had not understood the labour management during undergraduate period and they had not used partograph in the past due to lack of knowledge and confidence.

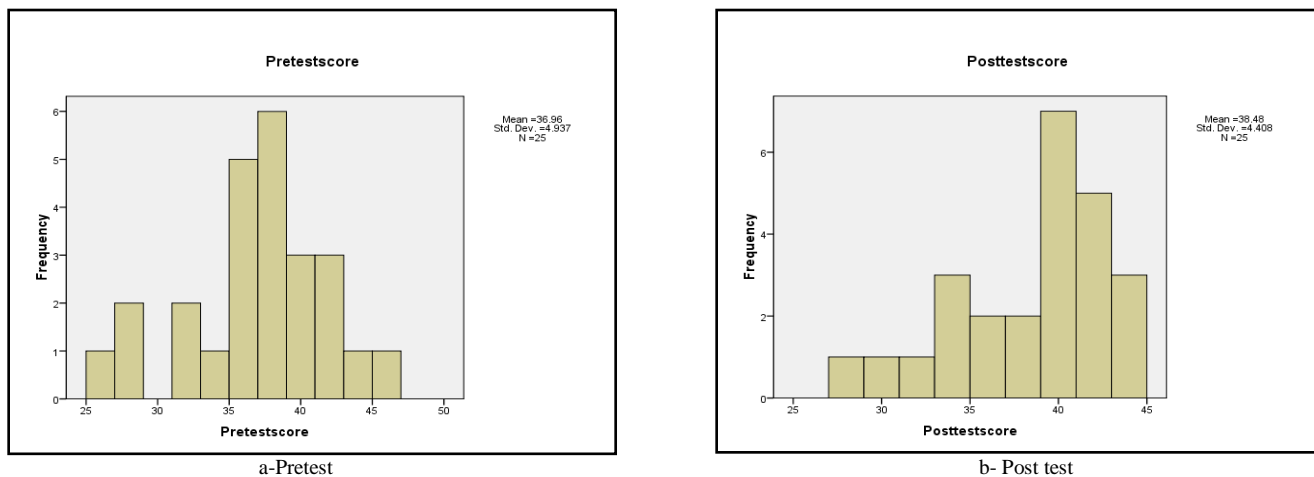**Fig.1 –Histogram showing distribution of pre and post test scores (a and b) in MCQ test**

a-Pretest   b- Post test

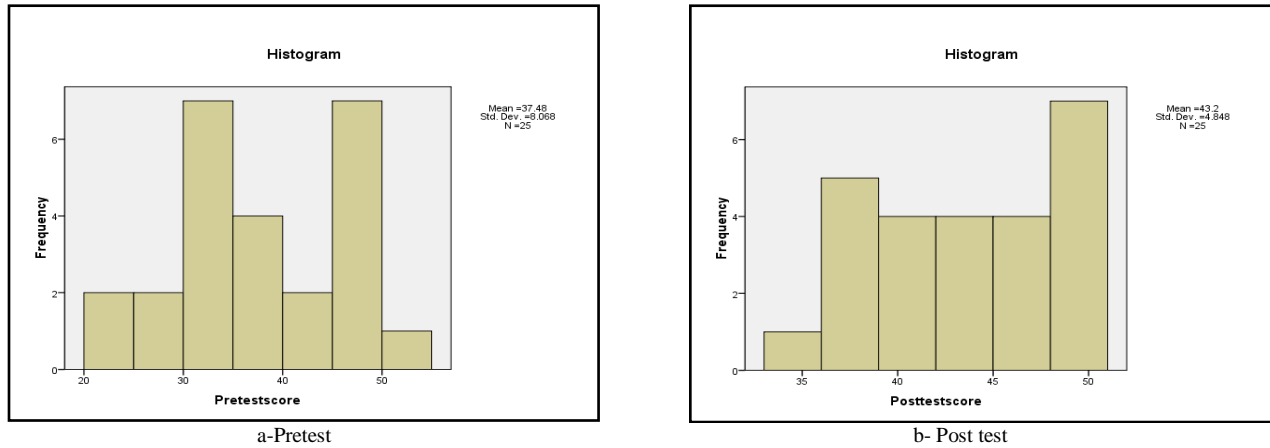**Fig.2 –Histogram showing distribution of pre and post test scores in OSCE test**

a-Pretest

b- Post test

Table 1: Analysis of MCQ Pre and Post test score

Parameter	Pre-test Score	Post -test score
Mean	36.96	38.48
Median	38.00	40.00
Mode	38	40
SD	4.937	4.408
Minimum	26	28
Maximum	46	44

Table 2: Analysis of OSCE Pre and Post test score

Parameter	Pre- test Score	Post -test Score
Mean	37.48	43.20
Median	37	42
SD	8.068	4.848
Minimum	24	34
Maximum	50	50
95% Confidence interval for mean	34.15 to 40.81	41.20 to 45.20

Fig 3: Showing students feedback on training programme. (Likert scale 5)
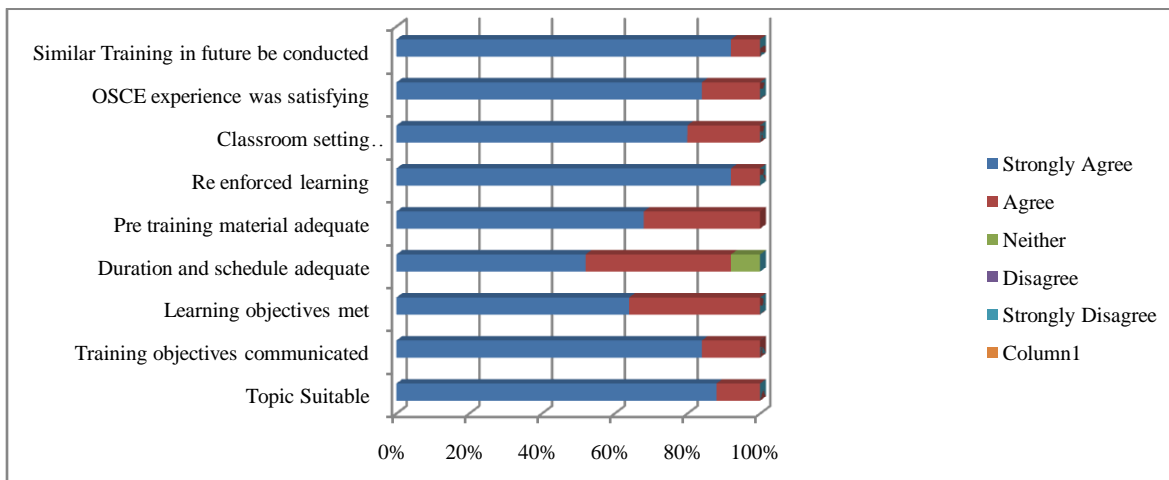
4. Conclusion

Training of postgraduate students in labour management using newer methods of teaching and assessment through MCQ test and OSCE stations was effective and feasible. It made the teaching process interactive and interesting. Residents expressed happiness about the innovative method of teaching and evaluation and gave suggestions for further enriching the training programme.

Acknowledgement

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