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# Effectiveness of a Structured Teaching Programme on Knowledge and Practice Regarding WHO Modified Partograph among Nurses

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**Abstract**

**Introduction:** According to the WHO Maternal and Child Health and Family Planning Programme in Geneva, 1989, obstructed labor and rupture of the uterus are among the five major causes of maternal mortality and morbidity in developing countries. This study aimed to assess the effectiveness of structured teaching programs (STP) on knowledge and practice regarding the WHO-modified Partograph among nursing staff in selected maternity departments. **Methodology**: This pre-experimental study evaluated the impact of structured teaching programs on the knowledge and practice of nursing staff regarding the WHO-modified Partograph. Sixty nursing staff members from maternity departments in selected hospitals in Vadodara participated using convenience sampling. Data were gathered through structured knowledge questionnaires and checklists. Descriptive and inferential statistics were employed for analysis. Results aimed to provide insights into the effectiveness of structured teaching programs in improving maternal and fetal health outcomes. **Results:** The mean post-test knowledge score (M = X) was significantly higher than the mean pre-test knowledge score (M = Y), with a difference of 6.01. The calculated t-value (t=29.52) exceeded the tabulated t-value (t=2.00), indicating statistical significance and suggesting the effectiveness of the STP in improving knowledge. Similarly, the mean post-test practice score (M = X) was significantly higher than the mean pre-test practice score (M = Y), with a difference of 6.52. The calculated

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t-value (t=30.10) exceeded the tabulated t-value (t=2.00), indicating statistical significance and suggesting the effectiveness of the STP in improving practice.

**Keywords:** Structured Teaching Programme, Knowledge, Practice and WHO Modified Partograph.

**Introduction:**

The partograph, depicted as a sigmoid curve, is a vital tool for monitoring labor progression and determining when intervention is necessary.[1,2] It plays a crucial role in reducing complications from prolonged labor for both the mother (such as postpartum hemorrhage, sepsis, and uterine rupture) and the newborn (including death, anoxia, and infections).[3] Recent updates in 2018 prompted the WHO to revise the partograph based on new evidence, including a better understanding of the individual variability in labor progress. [4]

These new recommendations are rooted in emerging evidence on normal labor progression, and the WHO has released a user manual to assist healthcare providers in effectively using the updated partograph. Timely detection of any abnormalities during labor allows for prompt treatment of the mother, which in turn benefits the fetus. [5]

Understanding the factors that influence the use of the partograph by obstetric caregivers is crucial for improving labor management and reducing maternal and fetal morbidity and mortality.

The World Health Organization (WHO) recommends the use of the Partograph as a vital tool for monitoring labor and preventing complications during childbirth. Adequate knowledge and skill in using the Partograph are crucial for nursing staff to ensure timely interventions and improve maternal and fetal health outcomes. Structured teaching programs (STP) have been recognized as effective methods for enhancing healthcare professionals' knowledge and skills. This study aims to assess the effectiveness of STPs on knowledge and practice regarding the WHO-modified Partograph among nursing staff. By evaluating the impact of STPs, this study seeks to contribute valuable insights into improving the quality of care provided during labor, ultimately leading to better maternal and fetal health outcomes. [6]

**Methodology:**

The research approach undertaken in this study was a pre-experimental design, specifically employing a one-group pretest-posttest design. The study focused on a population of 60 nursing staff members working in the maternity departments of selected hospitals in Vadodara.

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Utilizing a convenience sampling technique, participants were selected for the study. The primary objective was to evaluate the impact of structured teaching programs on the knowledge and practice of nursing staff regarding the WHO-modified Partograph.

To gather data, a structured knowledge questionnaire and a structured checklist were utilized. These tools were designed to assess the participants' knowledge and practice regarding the WHO-modified Partograph, respectively. The questionnaire was aimed at evaluating the participants' understanding and awareness of the Partograph, while the checklist focused on assessing their practical application of the tool in clinical settings.

Both descriptive and inferential statistics were employed to analyze the data collected. Descriptive statistics were used to summarize the characteristics of the participants and their responses, providing a comprehensive overview of the study sample. Inferential statistics, on the other hand, were used to draw conclusions and make inferences about the population based on the sample data.

The research was conducted within the selected hospitals of Vadodara, providing a real-world setting for the study. Overall, the study aimed to contribute valuable insights into the effectiveness of structured teaching programs in enhancing the knowledge and practice of nursing staff regarding the WHO-modified Partograph, with the ultimate goal of improving maternal and fetal health outcomes.

**Results:**

**Section- I Findings related to Demographic variables:**

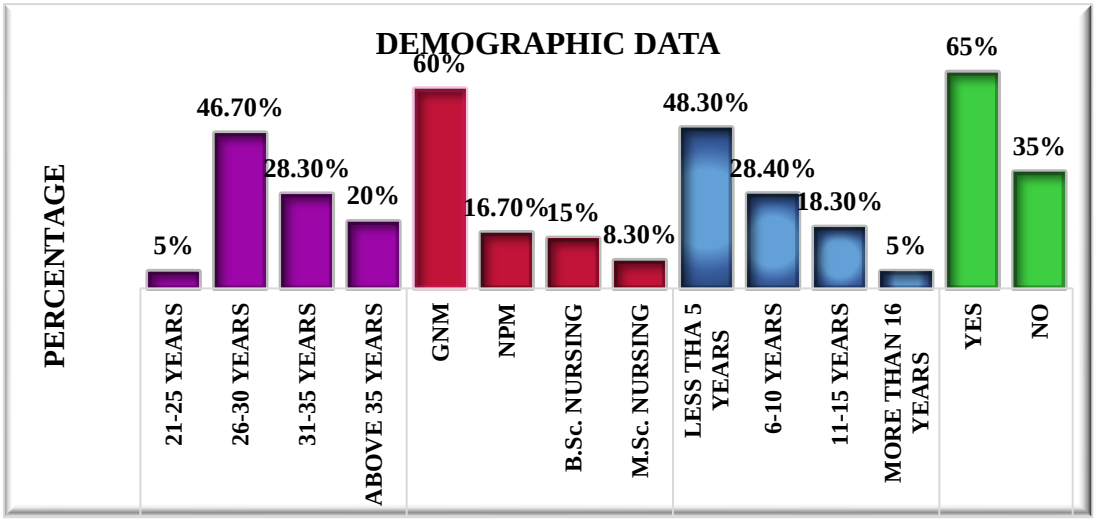


**Figure 1:** Bar- graph on percentage distribution of Demographic variables

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According to age 03 (5%) were in 21-25 years, majority 28(46.7%) were in 26-30 years followed by 16 (26.7%) were in 31-35 years and 13 (21.6%) were above 35 years of age.

Data on the educational qualification of staff nurses showed that a maximum of 36 (60%) were qualified with GNM, 10 (16.7%) were qualified with NPM, 09 (15%) were qualified with B. Sc Nursing, and 05 (8.3%) were qualified with M.Sc. Nursing.

As per years of experience, the majority 29 (48.3%) had less than 5 years of experience, 17 (28.4%) had 6-10 years of experience, 11 (18.3%) had 11-15 years of experience and 03 (5%) had more than 16 years of experience.

Data on staff nurses had undergone any training program/ Conference/ Workshop regarding WHO modified Partograph, a maximum of 39 (65%) had undergone training program regarding WHO modified Partograph, and 21 (35%) had not undergone any training program regarding WHO modified Partograph.

The mean post-test knowledge score was higher than that of the mean pre-test knowledge score with a significant difference of 6.01 and the calculated ‘t’ value (t=29.52) was greater than the tabulated ‘t’ value (t=2.00) which was statistically proved. Thus, the STP was effective. The mean post-test practice score was higher than that of the mean pre-test practice score with a significant difference of 6.52 and the calculated ‘t’ value (t=30.10) was greater than the tabulated ‘t’ value (t=2.00) which was statistically proved.

The study findings revealed a substantial improvement in both knowledge and practice among the nursing staff following the structured teaching programs (STP). The mean post-test knowledge score exhibited a noteworthy increase compared to the mean pre-test knowledge score, indicating a significant difference of 6.01. The calculated 't' value (t=29.52) far exceeded the tabulated 't' value (t=2.00), providing strong statistical evidence for the effectiveness of the STP in enhancing knowledge. Similarly, the mean post-test practice score surpassed the mean pre-test practice score by 6.52 points, with a calculated 't' value (t=30.10) significantly higher than the tabulated 't' value (t=2.00), further validating the effectiveness of the STP in improving practice. These findings underscore the importance and impact of structured teaching programs in enhancing the knowledge and practice of nursing staff regarding the WHO-modified Partograph.

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**Section- II: Comparison of pre-test and post-test knowledge score of mean, mean percentage, SD, 't' value**

**Table 1:** Comparison of pre-test and post-test knowledge score

**n=60**

| Level of knowledge | Mean | SD | Mean Difference | Calculated 't' value | Tabulated 't' value |
|---|---|---|---|---|---|
| Pre-test | 8.34 | 1.51 | 6.01 | 29.52 | 2.00 |
| Post-test | 14.35 | 0.8 | | | |

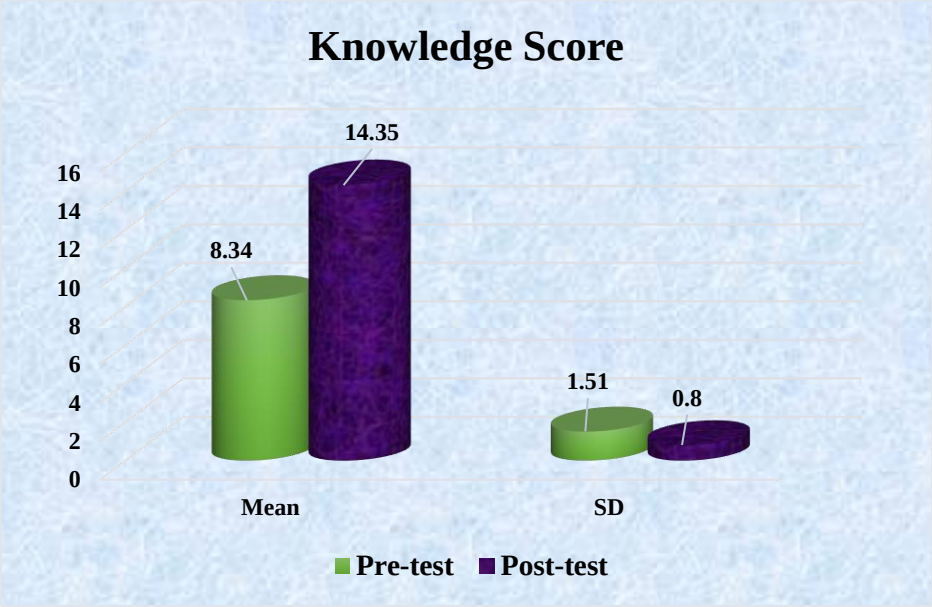


**Figure 2:** Bar- graph on Comparison of pre-test and post-test knowledge score

**Comparison of pre-test and post-test practice score of mean, mean percentage, SD, 't' value.**

**Table 2:** Comparison of pre-test and post-test practice score

**n=60**

| Level of Practice | Mean | SD | Mean Difference | Calculated 't' value | Tabulated 't' value |
|---|---|---|---|---|---|
| Pre-test | 10.7 | 1.48 | 6.52 | 30.10 | 2.00 |
| Post-test | 17.22 | 0.78 | | | |

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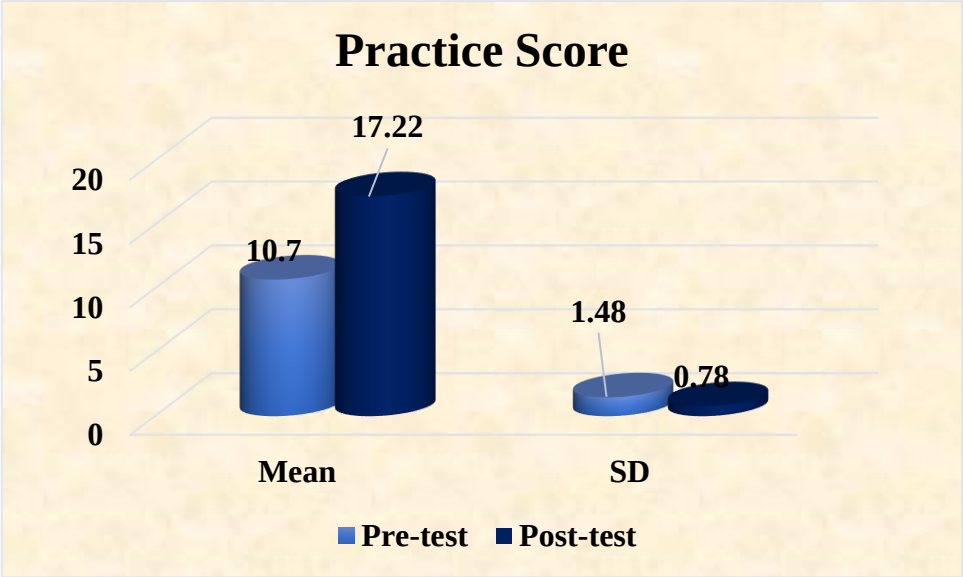


**Figure 3:** Bar- graph on Comparison of pre-test and post-test practice score

**Section- III: Findings Related to Correlation Coefficient between Knowledge and Practice Score of Post-test Level Score**

**Table 3:** Correlation Coefficient between Knowledge and Practice Score of Post-test Level Score

**n=60**

| Post-test Knowledge mean score | Post-test Practice mean score | Karl Pearson's (r) Correlation-coefficient | INTERFERENCE |
|---|---|---|---|
| 14.35 | 17.22 | 0.84 | Moderately positive correlation |

The study results revealed a post-test knowledge mean score of 14.35 and a practice mean score of 17.22 among the participants. Additionally, a moderately positive correlation coefficient of 0.84 was observed between the post-test knowledge and practice scores of the samples. This suggests that as knowledge scores increased, so did practice scores, indicating a positive relationship between knowledge and practice regarding the WHO-modified Partograph among the nursing staff.

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**Section- IV: Findings Related to Association between the pre-test level of knowledge score and practice score with selected demographic variables**

**Table 4:** Association between the pre-test level of knowledge score and practice score with selected demographic variables

**n=60**

| S. No. | DEMOGRAPHIC VARIABLES | KNOWLEDGE | | | | PRACTICE | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | df | χ2 value | Table value | INTERFERENCE | df | χ2 value | Table value | INTERFERENCE |
| 1. | Age | 6 | 2.68 | 12.59 | No | 6 | 0.45 | 12.59 | No |
| 2. | Educational Qualification | 6 | 0.28 | 12.59 | No | 6 | 4.58 | 12.59 | No |
| 3. | Years of Experience | 6 | 3.296 | 12.59 | N0 | 6 | 0.37 | 12.59 | No |
| 4. | Training, Conference, Workshop attended | 2 | 1.495 | 5.99 | No | 2 | 0.22 | 5.99 | No |

In this study, no significant association was found between pre-test knowledge and practice scores and the demographic variables of the participants, including age, educational qualification, years of experience, and attendance at training, conferences, and workshops. This suggests that these demographic factors did not significantly influence the pre-test knowledge and practice levels of the nursing staff regarding the WHO-modified Partograph.

**Discussion:**

According to the present study the demographic data are According to age 03 (5%) were in 21-25 years, majority 28(46.7%) were in 26-30 years followed by 16 (26.7%) were in 31-35 years and 13 (21.6%) were above 35 years of age. Data on the educational qualification of staff nurses showed that a maximum of 36 (60%) were qualified with GNM, 10 (16.7%) were qualified with NPM, 09 (15%) were qualified with B. Sc Nursing and 05 (8.3%) were qualified with M.Sc.

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Nursing. As per years of experience, the majority 29 (48.3%) had less than 5 years of experience, 17 (28.4%) had 6-10 years of experience, 11 (18.3%) had 11-15 years of experience and 03 (5%) had more than 16 years of experience. Data on staff nurses had undergone any training programme/ Conference/ Workshop regarding WHO modified Partograph, a maximum 39 (65%) had undergone training programme regarding WHO modified Partograph and 21 (35%) had not undergone any training programme regarding WHO modified Partograph.

A similar study conducted by Faiza Taha regarding the knowledge and Practice of Nurses & Midwives Regarding a photograph in Three Selected Hospitals-Khartoum State- Sudan 2014 Faiza. A N, RN. An experimental design was used to collect information on the knowledge and practice of nurses & midwives in plotting the partograph, 60 samples were drawn from selected hospitals, interviewed, and observed. The findings interpret that, samples have long experience varying from 11 to 30 years but only 30% of them can plot the partograph perfectly. Nurses generally had good knowledge about partograph (78%). Their knowledge regarding the assessment of labor progress, fetal components plotting, and maternal components plotting was (84.2, 82.5, 82and 81.3 %) respectively poor knowledge regarding complication and risk factors during labor was 73.5 and 64.2% respectively. Practical aspects of nurses regarding plotting of partograph was (54.6 %).[7]

The results from this study interpreted that Nurses had good knowledge regarding partograph with moderately satisfactory practice regarding partograph and highlights the need for continuous in-service training to update nurses' & Midwives' Knowledge and practice regarding partograph plotting. Competency-based standards need to be established for midwifery practices.

**Conclusion:**

The study found that nursing staff in the maternity department had a moderate lack of knowledge and practice regarding the WHO-modified Partograph. However, the structured teaching program (STP) implemented in the study proved to be effective in improving the knowledge and practice of the participants regarding the Partograph. After the STP intervention, the samples showed a significant improvement in both knowledge and practice. These findings suggest that the STP developed by the investigator was successful in enhancing the samples' knowledge and improving their practice related to the WHO-modified Partograph.

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**Conflict of Interest:**

The study was conducted without external funding or financial support from any organization or institution. The researchers financed the research using their own personal funds, covering expenses such as materials, equipment, and other study-related costs. This demonstrates their strong commitment and dedication to advancing scientific knowledge, as well as their willingness to invest personal resources in conducting the study.

**Ethical Clearance:**

Before commencing the study, we obtained approval from the institutional ethics committee. We also implemented measures to ensure the privacy and confidentiality of the information gathered throughout the entire research process.

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