Effect of Video Assisted Teaching on Knowledge of Staff Nurses regarding non-pharmacological Interventions during First Stage of Labour to Improve Maternal and Fetal Outcome among Primi Parturient Mothers

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Abstract
The present study was conducted to assess the effect of video assisted teaching on knowledge gain of staff nurses on non pharmacological interventions during first stage of labour. An experimental design was chosen with pre test and post test of experimental and control group. The sample size was 60 registered staff nurses divided into two groups as 30 in experimental and 30 in control group. The tools used for conducting the study included demographic variables, self structured questioner to assess knowledge of experimental and control group. The experimental group was given video assisted teaching as an intervention and the control group was used for comparison only. The data were analyzed with the help of descriptive and inferential statistics. The study clearly shows that there was a significant gain in knowledge of staff nurses in experimental group with video assisted teaching which emphasizes that non pharmacological intervention during first stage of labour are safe and improve maternal and fetal outcome. Therefore the staff nurses can be benefited with video assisted teaching to improve knowledge and practice on non pharmacological interventions during first stage of labour and they can practice these interventions in clinical area in future.

Keywords: Non-pharmacological Interventions, Video Assisted Teaching Maternal and Fetal Outcome, Primi Parturient Mothers

Introduction
Normal child birth is a term that refers to giving birth without medication and any intervention from nursing personnel. In its strictest interpretation, this approach rules out such procedures as induction, acceleration of labour, artificial rupture of membrane, continuous electronic fetal monitoring, use of forceps and other instrumental delivery. Various birthing positions were prevalent since ancient times when medical protocols were not developed and child birth was handled by midwives having basic knowledge of labour. The upright birthing position was common before seventeenth century in western countries.¹

Caesarian Deliveries are steadily increasing in India raising doubts on whether doctors are needlessly exposing women and infants to surgical risks. The lack of changes in maternal position throughout labour can contribute to dystocia and increase the risk of cesarean births for failure to progress or descend.²

Increased medical management, lack of patient under-
standing about the importance of movement to facilitate labour progress as well as lack of knowledge among nurses on the subject have contributed to immobility. Amniotomy, oxytocin induction and epidural anesthesia and these interventions can interfere with movement and position changes, necessitating immobility during labour which can increase the length of labour followed by complication.  

Problem Statement
Effect of Video Assisted Teaching on Knowledge of Staff Nurses Regarding non-pharmacological Interventions during First Stage of Labour to Improve Maternal and Fetal Outcome among Primi Parturient Mothers at selected hospitals at Bhopal, (M.P.).

Objectives of the Study
The objectives of the study was:

• Assess the knowledge score of staff nurses in experimental group and control group on the non-pharmacological interventions during first stage of labour to improve maternal and fetal outcome among primi parturient mothers.

• Develop a Video assisted teaching (VAT) program on the non-pharmacological interventions during first stage of labour to improve maternal and fetal outcome among primi parturient mothers during first stage of labour.

• Assess the effects of video assisted teaching (VAT) on the experimental group regarding knowledge gain on the non-pharmacological interventions during first stage of labour to improve maternal and fetal outcome among primi parturient mothers.

• Compare the knowledge of experimental and control group regarding the non-pharmacological interventions during first stage of labour to improve maternal and fetal outcome among primi parturient mothers.

• Associate the pre-interventional level of knowledge of experimental and control group with their selected demographic variables.

Null Hypothesis

H₀: There will be no significant difference in the knowledge score of the staff nurses of the experimental group with video assisted teaching on the non-pharmacological interventions during first stage of labour to improve maternal and fetal outcome among primi parturient mothers.

H₁: There will be no significant difference in the knowledge between control and experimental group after video assisted teaching to experimental group regarding the non-pharmacological interventions during first stage of labour to improve maternal and fetal outcome among primi parturient mothers.

H₂: There will be no significant association between experimental and control group with their selected demographic variables on gain of knowledge regarding the non-pharmacological interventions during first stage of labour to improve maternal and fetal outcome among primi parturient mothers.

Research Methodology
The research approach adopted in the study was evaluative approach to assess the effectiveness of video assisted teaching on non-pharmacological interventions during first stage of labour to improve maternal and fetal outcome among primi parturient mothers among staff nurses.

Variables under Study

Independent Variable:- The video assisted teaching on non-pharmacological interventions during first stage of labour.

Dependent Variable: - Knowledge is a dependent variable which is dependent on video assisted teaching.

Demographic Variables
Age, Educational qualification, professional experience, clinical experience in obstetric and gynecological nursing wards, previous exposure on non-pharmacological interventions in first stage of labour and source of information about non-pharmacological interventions in first stage of labour.

Setting
The study was conducted at RKDF Medical College, Hospital & Research Center, Bhopal. It is one of the teaching hospitals of Bhopal district in Madhya Pradesh. The hospital consists of 730 beds in total and 65 beds are in Maternity wards.

Sample
A sample is a portion of the study that has been selected to represent the population of interest.

The samples were 60 staff nurses who fulfilled the inclusive criteria out of that 30 were taken in the experimental group & 30 were taken as control group.

Criteria for Sample Selection

Inclusion Criteria
• Staff nurses present at the time of data collection.
• Staff nurses working in the selected hospitals.
• Staff nurses willing to participate in the study.

Inclusion Criteria
• Staff nurses who were not willing to participate in the study.
• Staff nurses with post graduate degree in obstetrical and gynecological nursing department.
• Auxiliary Nurse and midwives are not included.

Sampling Technique
The purpose of using a sampling technique is to increase
representativeness and to decrease bias and sampling error.

In this study a total of 60 staff nurses were selected by Simple random technique.

**Duration of Study**
6 weeks.

**Development and Description of the Tool**
The investigator used the following steps for preparation of the tools for the study:

- Extensive review of literature The investigator did an extensive review of related literature from books, journals, manuals; reports published researches, newspapers and internet to develop study instruments.
- Consultation with experts from the field of study
- Preparation of the final draft of the tools
- Editing of the tools

**Section A: Demographic variables**

**Section B: Self constructed Questionnaire with thirty items to assess knowledge of staff nurses on non pharmacological interventions during first stage of labour.**

**Section C: Preparation of Video assisted teaching on non-pharmacological interventions during first stage of labour for Intervention on experimental group.**

**Scoring Procedure**
Each question had 4 options from which the sample has to choose 01 correct answer. The right answer was scored as 01 and the wrong option was scored as zero. The scoring was interpreted as below:

- Inadequate knowledge-score less than 50%
- Moderate knowledge-score between 51-75%
- Adequate knowledge-more than 75%

**Intervention**
The video assisted teaching programme of 45 minutes duration was shown to staff nurses of the experimental group.

**Method of Data Collection**
An informed written consent was taken from the samples and the permission to conduct the study was obtained from the authorities. The data was collected in the following phases.

**Phase 1:** The structured questionnaire consisting of 30 items was administered on staff nurses of experimental and control group to assess the pre-test knowledge score on non-pharmacological intervention during first stage of labour.

**Phase 2:** The video assisted teaching session of 45 minutes was carried out for staff nurses of the experimental group while the samples in the control group continued with the normal routine of the hospital.

**Phase 3:** The same questionnaire was administered on seventh day for both experimental and control group.

**Plan for Data Analysis**
The plan for data analysis was as follows:

- Organization of data then the information was analyzed in terms of frequency and percentage.
- The knowledge on non-pharmacological interventions during first stage of labour to improve maternal and fetal outcome among primi parturient mothers, analyzed in terms of frequency, percentage, mean and standard deviation.
- Unpaired t-test is used to test the significant difference in the knowledge between the experimental and the control group.

The demographic variables of staff nurses on non pharmacological interventions during first stage of labour are given below.

It is observed from the result as shown in table 1, that in experimental group a majority of staff nurses 15 (50%) belongs to 21-25 years of age, than 12 (40%) staff nurses were between 26 -30 year of age and 3 (10%) of staff nurses belongs to 31-35 years of age group .In control group a majority of staff nurses 14 (46.67%) belongs to 21-25 years of age, then 13 (43.33%) staff nurses were between 26 -30 year of age and 3 (10%) of staff nurses belongs to 31-35 years of age group.

In religion a majority of staff nurses 19 (63.34%) were Hindu, 02 (6.67%) staff nurses were Muslim and 9(30 %) of staff nurses were Christian in experimental group & In control group majority of staff nurses 21 (70%) were Hindu, 01 (3.33%) staff nurses were Muslim and 08 (26.67%) of staff nurses were Christian.

In professional experience of experimental group a majority of staff nurses that is 21 (70%) had 1-3 years of professional experience, 06 (20%) staff nurses had 4-6 years of experience and 03 (10%) of staff nurses had 7-9 years of professional experience. In control group majority of staff nurses 21 (70%) had 1-3 years of professional experience, 05 (16.67%) staff nurses had 4-6 years of professional experience and 04 (13.33%) of staff nurses had 7-9 years of professional experience.

On considering educational qualification majority of staff nurses 12 (40%) were Diploma in nursing, 10 (33.34%) staff nurses were B.Sc Nursing and 08(26.67%) of staff nurses were Post basic B.Sc Nursing in experimental group. In control group majority of staff nurses 12 (40%) were Diploma in Nursing, 11 (36.67%) staff nurses were B.Sc Nursing and 07 (23.33%) of staff nurses were Post basic B.Sc Nursing.
Regarding institution where experience gained, majority of staff nurses 27 (90%) were trained in private hospital and 03 (10%) staff nurses were trained from government hospital in experimental group & in the control group 02 (6.67%) staff nurses were trained from government hospital and a majority of staff nurses that is 28 (93.33%) were trained from private hospitals.

The source of knowledge for a majority of staff nurses was newspaper and magazines i.e. 25 (33.33%) in experimental group and the same was found in control group. Besides 05 (16.67%) staff nurses acquired knowledge on non-pharmacological interventions during labour from their relatives and the same percentage was applicable to control group staff nurses also.

With regards to the experimental group. A majority of staff nurses in pre-test that is 23 (77%) had inadequate knowledge and 07 (23.33%) of them had moderate knowledge but in post-test 11 (27.5%) of them had moderate knowledge and 26 (87%) of them had adequate knowledge. The source of knowledge for a majority of staff nurses was newspaper and magazines i.e. 25 (33.33%) in experimental group and the same was found in control group. Besides 05 (16.67%) staff nurses acquired knowledge on non-pharmacological interventions during labour from their relatives and the same percentage was applicable to control group staff nurses also.

### Table 1. Frequency and Percentage distribution of subjects as per age, religion, professional experience in year, educational qualification, socio-economic status, source of knowledge

| Characteristics                     | Category | Subjects Group |
|-------------------------------------|----------|----------------|
|                                     |          | Experimental   | Control        |
|                                     |          | N   | %   | N   | %   |
| **Age Group (in years)**            |          |          |          |          |
| 21-25                               |          | 15  | 50  | 14  | 46.67 |
| 26-30                               |          | 12  | 40  | 13  | 43.33 |
| 31-35                               |          | 03  | 10  | 03  | 10    |
| **Religion**                        |          |          |          |          |
| Hindu                               |          | 19  | 63.34 | 21  | 70    |
| Muslim                              |          | 02  | 6.67  | 01  | 3.33  |
| Christian                           |          | 09  | 30  | 08  | 26.67 |
| **Professional Experience (in years)** |          |          |          |          |
| 1-3                                 |          | 21  | 70  | 21  | 70    |
| 4-6                                 |          | 06  | 20  | 05  | 16.67 |
| 7-9                                 |          | 03  | 10  | 04  | 13.33 |
| **Educational Qualification**       |          |          |          |          |
| Diploma in Nursing                  |          | 12  | 40  | 12  | 40    |
| B.Sc. Nursing                       |          | 10  | 33.34 | 11  | 36.67 |
| Post Basic B.Sc. Nursing            |          | 08  | 26.67 | 07  | 23.33 |
| Any other                           |          | 00  | 00  | 00  | 00    |
| **Institution Where Experience Gained** |          |          |          |          |
| Govt. Hospital                      |          | 03  | 10  | 02  | 6.67  |
| Private Hospital                    |          | 27  | 90  | 28  | 93.33 |
| Community Primary Health Centers    |          | 00  | 00  | 00  | 00    |
| **Source of Knowledge**             |          |          |          |          |
| News Papers & Magazines             |          | 25  | 83.33 | 25  | 83.33 |
| Relatives                           |          | 05  | 16.67 | 05  | 16.67 |
| CNE on Non-pharmacological management of labour | | 00  | 00  | 00  | 00 |

### Table 2. Frequency and Percentage distribution of overall knowledge score of experimental and control group

| S. No. | Level of knowledge | Experimental group | Control group |
|--------|--------------------|---------------------|---------------|
|        |                    | Pre-test   | Post-test   | Pre-test   | Post-test   |
|        |                    | f   | %   | f   | %   | f   | %   | f   | %   |
| 1.     | Inadequate (<50%)  | 23  | 77  | -   | -   | 24  | 80  | 22  | 73.33 |
| 2.     | Moderate (51-75%)  | 07  | 23.33 | 04  | 13.33 | 06  | 20  | 08  | 27   |
| 3.     | Adequate (>75%)    | -   | -   | 26  | 87  | -   | -   | -   | -    |

**Note:** The above tables are placeholders for data representation. The actual data values are placeholders and should be replaced with actual data from the document.
With regards to the control group a majority of staff nurses in pre-test that is 24 (80%) had inadequate knowledge and 06 (20%) of them had moderate knowledge. In post-test 22 (73.33%) of them had inadequate knowledge and 08 (27%) of them had moderate knowledge (51-75%).

### Association of Posttest Knowledge of Experimental and Control with Selected Demographic Variables

Association of posttest knowledge of experimental and control group with their selected demographic variables was done using chi-square test. Out of many variables for association, age, experience and the training institutes were associated in contribution towards knowledge.

### Discussion

**Assessment of knowledge score**

The overall percentage of knowledge in experimental group for pre-test was inadequate i.e., 77% staff nurses and the level of knowledge score was moderate in 23.33% of staff nurses and the post test knowledge score increased after video assisted teaching to 13.33% as moderate knowledge and 87% of staff nurses showed the knowledge score as adequate. Where as in Pre-test of control group 80% of staff nurses showed inadequate knowledge and 20% staff nurses showed moderate knowledge and 0% as adequate knowledge against in post test of control group showed 73.33 % inadequate knowledge score for staff nurses and 27 % as moderate knowledge score and 0% staff nurses were in adequate knowledge score.

The comparison of overall pre test and post test mean, standard deviation ,mean difference and paired t-value
shows post test mean of experimental group is 22.133 with standard deviation 1.6 whereas in control group the post test mean is 12.033 and standard deviation is 1.1. The obtained t value is 1.2. Since the Calculated Value (CV) is more than Table Value (TV) at the .005 levels & at 29 degree of freedom therefore the null hypothesis is rejected that infers that there is a significant difference with video assisted teaching on knowledge gained among staff nurses of the experimental group.

**Conclusion**

The study showed an increase in knowledge score on non-pharmacological interventions during first stage of labour had increased after video assisted teaching on the subject. Hence we should include video assisted teaching to promote knowledge on the subject among staff nurses.

**Recommendation and Nursing Implication**

- The study can be done with larger samples for better generalization.
- Similar study can be conducted in other settings also.

**Nursing Practice**

Non pharmacological interventions are useful in Controlling pain without harm to mother, fetus or labour progress therefore it should be utilized in the practice to improve maternal and foetal outcomes.

**Nursing Administration**

The nurse administrator should organize in-service education and training programs on non-pharmacological intervention during first stage of labour. It will improve the knowledge of staff nurses and promote comfort for labouring women besides minimizing the complications.

**Confidentiality of Data**

The feedback forms obtained from staff nurses are kept confidentially. Only the principal investigator has the access to these documents.

**Conflict of Interest:** None

**References**

1. Lowe NK. The Pain and Discomfort of Labor and Birth. *J Obstet Gynecol Neonatal Nurs* 1996; 25(1): 82-92.
2. Choudhary S, Prakash K, Mahalingam G et al. Effectiveness of labor support measures on the pain perception of mothers in labor. *International Journal of Medical Science and Public Health* 2018; 7(5): 385-389.
3. Andrews CM, Chrzanowski M. Maternal position, labor, and comfort. *Appl Nurs Res* 1990; 3(1): 7-13.
4. Huff J. The floating bed, *Co*•www.floatingbed.com. Excerpts from a variety of articles or studies that found health benefits of motion, for various conditions in several categories. 2008.
5. James JN, Prakash KS, Ponniah M. Awareness and attitudes towards labour pain and labour pain relief of urban women attending a private antenatal clinic in Chennai, India. *Indian J Anaesth* 2012; 56(2): 195-198.
6. Almeida EC, Nogueira AA, Candido dos Reis FJ et al. Cesarean section as a cause of chronic pelvic pain. *Int J Gynaecol Obstet* 2002; 79(2): 101-104.
7. Wen SW, Rusen ID et al. Comparison of maternal mortality and morbidity between trial of labor and elective cesarean section among women with previous cesarean delivery. *Am J Obstet Gynecol* 2004; 191(4): 1263-1269.

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