



## Effectiveness of video assisted teaching programme on knowledge regarding neonatal mask ventilation among nursing officers in selected Index Hospital & Research Centre, Indore.

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### Abstract

**Background:** New-borns undergo significant changes post-birth, with 5%-10% requiring resuscitation. Basic neonatal resuscitation is necessary for 3%-6% of new-borns. Nursing officers during their working area should be prepared to perform infant resuscitation to reduce neonatal death from birth asphyxia.

**Objective:** To evaluate the effectiveness of VAT on knowledge regarding Bag and Mask ventilation in neonates among nursing officers.

**Methodology** An evaluator approach with one group pre-test, post-test design was used for the study. The sample consisted of 50 nursing officers who met the inclusion criteria and the samples were selected using purposive sampling technique. Pre-test was administered by using structured interview schedule and video assisted teaching program was given on the same day. On eighth day post-test was conducted by using the same tool. The collected data were analysed by using descriptive and inferential statistics. The skills of nursing students were significantly associated with previous knowledge ( $= 8.35$ ) and number of ventilations performed previously ( $=9.53$ ). very effective in improving the skills of nursing students regarding bag and mask ventilation in neonates.

**Keywords:** Effectiveness, Bag and Mask ventilation in neonates, knowledge Video Assisted teaching program

### Introduction

**Background of the study:** A vital component of human existence, oxygen is essential. Our organs, including the brain and other bodily components, will perish without it. The fetus receives oxygen from the placenta prior to birth. The child must go through significant physiological changes to take his first breath, nevertheless, since the umbilical cord is slotted and tightened by artery forceps after delivery. Neonates effectively achieve this shift without assistance in at least 90% of cases. Approximately 10% of babies need some help breathing at delivery, and 1% or more may need intense resuscitation.

Bag-valve-mask (BVM) ventilation is a crucial emergency skill for managing airways in patients unable to establish definitive airways. It is ideal for pediatric patients and operating room ventilation. Factors predicting difficult ventilation include facial hair, teeth, BMI, age, and snoring history. Mask sizes help create a good seal.

Nursing student

**Need of the study:** Neonatal deaths, primarily during the first week, account for 75% of deaths, with premature birth, birth complications, infections, and congenital anomalies accounting for nearly 4 in 10 deaths in children under 5. Despite declining rates since 2000, access to quality healthcare remains a critical concern for mothers and newborns worldwide.

When performing bag and mask ventilation (BVM) on a newborn, the recommended rate is 40 to 60 breaths per minute. This rate is typically used during initial resuscitation efforts for newborns who are not breathing spontaneously or who are experiencing respiratory depression.

Nursing officers often struggle knowledge leading to anxiety and self-esteem issues knowledge on neonate's mask ventilation skills can improve knowledge, practice,

attitudes, self-efficacy, and anxiety management, requiring regular theoretical and applied training.

**Problem Statement:** A Pre-experimental study to assess effectiveness of Video assisted teaching program on knowledge regarding neonatal mask ventilation among nursing officers in selected Index hospital & research Centre, Indore

### Objectives

- To assess the mean pre-test knowledge score regarding neonatal mask ventilation among nursing officers.
- To evaluate the effectiveness of Video Assisted teaching program on knowledge regarding neonatal mask ventilation among nursing officers.
- To find out association between pre-test knowledge score with selected demographic variables.

### Hypothesis

**H0:** The mean post knowledge scores will be not significantly higher than pre-test knowledge score of nursing officers regarding Video Assisted teaching program on Bag-mask ventilation at 0.05 level of significance.

**H1:** The mean post knowledge scores will be significantly higher than pre-test knowledge score of Nursing officers regarding Video Assisted teaching program on Bag-mask ventilation at 0.05 level of significance.

**Materials and Methodology:** A pre- experimental study one group pre-test post-test design was used. Pre and post-test data was collected purposively selected 50 Nursing officers from Index hospital Indore. Results: The mean knowledge scores obtained by the nursing officers after conducting Video Assisted teaching program (32.6) was higher than those obtained before (16.7). Also mean scores

were higher in all areas in post-test. There was a significant difference between the mean post-test and pre-test knowledge scores. ( $t_{49}=18.87, P<0.05$ ). There was significant difference between mean post-test and pre-test knowledge scores in all the areas. There was significant association between the pre-test knowledge scores and variables like clinical experience ( $\chi^2=12.82, P<0.05$ ) and working area ( $\chi^2=11.613, P<0.05$ ).

**Conclusion:** The study concludes that VAT regarding Bag and Mask Ventilation was Effectiveness.

**Results and Discussion**

The mean knowledge scores obtained by the nursing officers after conducting video assisted vteaching program (32.6) was higher than those obtained before (16.7). Also mean scores were higher in all areas in post-test. There was a significant difference between the mean post-test and pre-test knowledge scores. ( $t_{49}=18.87, P<0.05$ ). There was significant difference between mean post-test and pre-test knowledge scores in all the areas. There was significant association between the pre-test knowledge scores and variables like clinical experience ( $\chi^2=12.82, P<0.05$ ) and working area ( $\chi^2=11.613, P<0.05$ ).

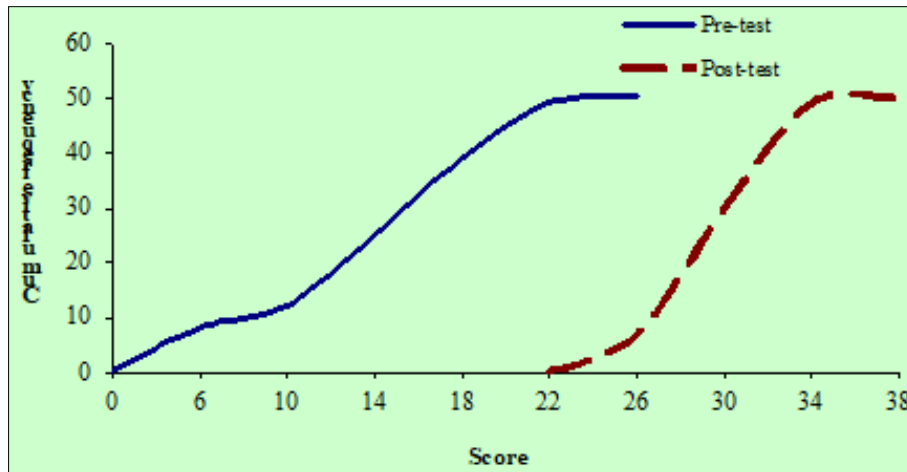


Fig 1: ogive show pretest post test knowledge score of nursing officers

The total knowledge score obtained was arbitrarily graded as follows:

80% and above	- Very good
60-79%	- Good
40-59%	- Average
Below 40%	- Poor

Table1: Grading of Knowledge Scores

Grading	Pre-test		Post-test	
	Frequency	Percentage	Frequency	Percentage
Very good	-		34	68%
Good	7	14	16	32%
Average	24	48		
Poor	19	38		

**Interpretation and conclusion:** Findings of the study showed that the knowledge scores of nursing officers were not adequate before the introduction of video teaching program. was evident in post-test knowledge scores. Post-test measures showed significant increase in the knowledge scores of nursing officers. Hence video assisted teaching program was an effective.

Table 2: Mean, Mean Difference, Standard Deviation And ‘t’ Value Between Pre And Post-Test Scores

Group	Mean		Mean difference	Standard deviation of difference	‘t’ value
	Pre-test	Post-test			
Women	16.2	32	16	5.865	18.87

‘t’ value - The calculated value of ‘t’ ( $t_{49}$ ) = 8.87 is greater than the tabled value  $t_{(49)} = 1.699$  ( $P < 0.05$ ) So VAT was effective in increasing the scores and study was significant.

**Nursing Implications:** The findings of the study have implications in various areas of nursing service, nursing education, community and home care services.

**1. Nursing service**

- Nurses working in maternity department can utilize technique such as individual and group teaching to performed bag and mask ventilation.
- Educational programme can be conducted regularly in hospitals.
- Students can participate in the performed bag and mask ventilation skill among neonates. It is important role of trainee nurse to render information through health education in simple ways to enhance the knowledge. • Nurses in the maternity setting should be instructed to assess the level of knowledge regarding care of neonate at the time of emergencies.
- The education can be a protocol to all nurses to update their knowledge in symptom management with regard to recent advances.
- In community, the community health nurse can utilize this skill training programme for educating the care givers.
- The findings of the study will help the nursing professional working in the hospitals to gain the knowledge of staff nurses and help in which they lack knowledge can be conducted for teaching.
- It can be utilized for assess the knowledge of the periphery level nurses on performed bag and mask ventilation emergencies.

**Nursing Education**

- Students can utilize the educational program to up lift their knowledge regarding care of patient.

- Periodic seminars and group discussion can be arranged on new strategies regarding care of the neonates and performed bag and mask ventilation.
- The nurse educator can use the tool to teach the student about performed bag and mask ventilation.
- A module can be prepared based on present findings for improve the knowledge of the staff nurses on performed bag and mask ventilation.

**Nursing Administration:** The findings will help the nursing student to understand about the importance of performed bag and mask ventilation e their knowledge neonates emergencies Nursing Administration is a complex disease that requires the efforts and skills of all members of the multidisciplinary team. Rapid recognition and treatment for the womens with emergencies can improve clinical outcomes. A coordinated multidisciplinary effort is necessary to accomplish this goal. The establishment of a nurse's team and adherence to the recommendations for a mass media education can provide a clear framework for development of a successful program. Nurses are often responsible for the coordination of care throughout the continuum.

#### Nursing Research

- The findings of the study help to expand scientific body of professional knowledge upon which further researches can be conducted.
- The findings of the study can be utilized for conducting research using large sample.
- Training to the care givers every one year should be recommended by the investigator.
- Interventions to support care givers by providing education, counseling, emotional support or help with accessing services by using information packages, social workers, specialist nurses or family support workers have shown little impact on patients and only modest improvements in psychological and social measures in care givers. Training care givers in skills essential for the day to day management. Hence more studies can be conducted in this area in order to strengthen the expanded role of nurses.

#### Recommendations

- An information booklet can be prepared as a teaching aid in the hospital and health clinics
- A longitudinal study can be done using post test after one month, six months and after one year to see the retention of the knowledge.
- A comparative study can be done between urban and rural areas.
- Similar study can be undertaken among large samples so that results can be generalized.
- A study can be done to evaluate the effectiveness of planned teaching program on performed bag and mask ventilation among neonates.
- An experimental study can be carried out by preparing bag and mask ventilation practices on neonatal emergencies.

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