

# Effectiveness of Video Assisted Teaching Programme on Knowledge and Skill Regarding Successful Ventilation with I-Gel and Laryngeal Mask Airway among Paramedical Students at Selected Colleges, Salem

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**Abstract:** Background of the Study: Supraglottic airway devices are now widely used for surgery requiring general anesthesia, so as to avoid the complications associated with tracheal intubation. LMA-classic is the gold standard for supraglottic airway devices and in use since 1981. I-gel Being the newer Supraglottic airway device has potential advantages including easier insertion, minimal risk of tissue compression, stability after insertion and an inbuilt bite block. Hence, the researcher has decided to assess the effectiveness of a teaching programme on knowledge and skill with two supraglottic airway devices I-gel and Laryngeal Mask Airway. Objectives: To assess the knowledge and skill regarding successful ventilation with I-gel and laryngeal mask airway among paramedical students. To evaluate the effectiveness of video assisted teaching programme on knowledge and skill regarding successful ventilation with I-gel and laryngeal mask airway among the paramedical students. To determine the relationship between knowledge and skill regarding successful ventilation with I-gel and laryngeal mask airway among the paramedical students. To associate the pretest score on knowledge and skill regarding successful ventilation with I-gel and laryngeal mask airway among the paramedical students and their selected demographic variables. Hypothesis : There will be a significant difference between pretest and post test score on knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students, There will be a significant relationship between knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students, There will be a significant association between the pretest score on knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students and their selected demographic variables. Methodology: one group pretest-posttest design (pre-experimental design) was used for the study. Non probability convenience sampling technique was used for the study. Final Result and Conclusion: In the pretest the level of knowledge among 50 paramedical students selected 34(68%) paramedical students have inadequate knowledge, 16(32%) paramedical students have moderately adequate knowledge and none of them have adequate knowledge regarding successful ventilation with I-gel and Laryngeal Mask Airway in their pretest, Where as in post test, 42(84%) paramedical students have adequate knowledge and 8(16%) of them have moderately adequate knowledge, none of them have inadequate knowledge regarding successful ventilation with I-gel and Laryngeal Mask Airway when compared with pretest. Among 50 paramedical students none of the paramedical students have good skill, 15(30%) paramedical students have average skill and 35(70%) of them have poor skill regarding successful ventilation with I-gel and Laryngeal Mask Airway in their pretest. Where as in the posttest, none of them have poor skill, 7(14%) of them has average skill 43(86%) of them have good skill regarding successful ventilation with I-gel and Laryngeal Mask Airway in their posttest. The Obtained' value for knowledge and skill is 15.74 and 30.63 respectively, which is significant at  $p \leq 0.05$  level. Hence the hypothesis H1 was retained. Thus it becomes evident that Video Assisted Teaching Programme is effective in improving the knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among the paramedical students

**Keywords:** effectiveness, video assisted teaching, knowledge and skill, I-gel and LMA

## 1. Introduction

Management of the airway is of at most importance in the cardiopulmonary resuscitation (CPR) setting. Different devices and techniques, such as the endotracheal intubation and the laryngeal mask airway (LMA), have been recommended. Although standard direct laryngoscope tracheal intubation remains the preferred technique to establish advanced airway management, sufficient experience is required to gain proficiency and constant retraining is required in order to maintain the skill. The classic laryngeal mask airway (LMA) on the other hand is easy to insert and when compared to endotracheal intubation. In the pre hospital setting, airway management is often performed by paramedics under suboptimal conditions. (Karcioglu .O, 2012)

Supraglottic airway devices are now widely used for surgery requiring general anesthesia, so as to avoid the complications associated with tracheal intubation. LMA-classic is the gold standard for supraglottic airway devices and in use since 1981. I-gel. Being the newer supraglottic airway device has potential advantages including easier insertion, minimal risk of tissue compression, stability after insertion and an inbuilt bite block. Hence, the researcher has decided to assess the effectiveness of a teaching programme on knowledge and skill with two supraglottic airway devices I-gel and Laryngeal Mask Airway.

## 2. Objectives

- 1) To assess the knowledge and skill regarding successful ventilation with I-gel and laryngeal mask airway among paramedical students.

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- 2) To evaluate the effectiveness of video assisted teaching programme on knowledge and skill regarding successful ventilation with I-gel and laryngeal mask airway among the paramedical students.
- 3) To determine the relationship between knowledge and skill regarding successful ventilation with I-gel and laryngeal mask airway among the paramedical students.
- 4) To associate the pretest score on knowledge and skill regarding successful ventilation with I-gel and laryngeal mask airway among the paramedical students and their selected demographic variables.

**Hypotheses:**

**H<sub>1</sub>:** There will be a significant difference between pretest and post test score on knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students at  $p \leq 0.05$  level.

**H<sub>2</sub>:** There will be a significant relationship between knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students at  $p \leq 0.05$  level

**H<sub>3</sub>:** There will be a significant association between the pretest score on knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students and their selected demographic variables at  $p \leq 0.05$  level

**3. Methodology**

Pre experimental group one group pre-test and post-test design was selected for this study in Vinayaka mission's college of paramedical sciences and Sri Gokulam College of allied health sciences, Salem, The study population will comprise of paramedical students. Total sample size 50 paramedical students are selected for the study by Non probability convenience sampling technique. The questionnaire consists of 3 parts demographic variables like age, gender, religion, category of course of study and previous knowledge regarding airway management and Structured questionnaire was used to assess the knowledge. The questions were under the subheadings related to general information, I-gel and laryngeal mask airway. And there were 30 items related to I-gel and laryngeal mask airway intubation procedure, those who had performed the steps correctly scored as one and those who did not perform scored as zero. Interpretation of score was done as follow.

**Table 1**

Knowledge	Scores	Percentages
Adequate Knowledge	23-30	Above 75%
Moderately Adequate knowledge	16-22	50-75%
Inadequate knowledge	1-15	Below 50%

**Table 2**

Skill	Scores	Percentages
Good skill	23-30	Above 75%
Average skill	16-22	50-75%
Poor skill	1-15	Below 50%

**4. Results**

**Table 3:** Pre test and post test level of knowledge among paramedical students

Level of Knowledge	Pretest		Posttest	
	No	Percentage (%)	No	Percentage (%)
inadequate knowledge	34	68	0	0
moderately adequate knowledge	16	32	8	16
adequate knowledge	0	0	42	84

Table 3 reveals that 34(68%) paramedical students have inadequate knowledge, 16(32%) paramedical students have moderately adequate knowledge and none of them have adequate knowledge regarding successful ventilation with I-gel and Laryngeal Mask Airway in their pretest, Where as in post test, 42(84%) paramedical students have adequate knowledge and 8(16%) of them have moderately adequate knowledge, none of them have inadequate knowledge regarding successful ventilation with I-gel and Laryngeal Mask Airway when compared with pretest.

**Table 4:** Pre test and post test level of skill among paramedical students

Level of skill	Pretest		Posttest	
	No	Percentage (%)	No	Percentage (%)
Good skill	0	0	43	86
Average skill	15	30	7	14
Poor skill	35	70	0	0

Table 4 Reveals among 50 paramedical students none of the paramedical students have good skill, 15(30%) paramedical students have average skill and 35(70%) of them have poor skill regarding successful ventilation with I-gel and Laryngeal Mask Airway in their pretest. Where as in the posttest, none of them have poor skill, 7(14%) of them has average skill 43(86%) of them have good skill regarding successful ventilation with I-gel and Laryngeal Mask Airway in their posttest and compared with posttest.

**5. Major Findings of the Study**

- In the pretest, 34(68%) paramedical students had inadequate knowledge, 16(32%) paramedical students had moderately adequate knowledge and none of them had adequate knowledge whereas regarding skill, none of them had good skill, 15(30%) paramedical students had average skill and 35(70%) of them had poor skill.
- In the post test among the paramedical students 42(84%) paramedical students had adequate knowledge and 8(16%) of them had moderately adequate knowledge whereas regarding skill, 43(86%) of them had good skill and 7(14%) paramedical students had average skill
- In the pretest, the knowledge mean score was  $14.94 \pm 2.99$  and difference in mean percentage was 49.8%. The mean score for skill was  $14.9 \pm 1.72$  and difference in mean percentage was 49.7%.
- In the posttest, the knowledge mean score was  $23.58 \pm 2.50$  and difference in mean percentage was 78.6%. The mean score for skill was  $25.62 \pm 2.31$  and difference in mean percentage for the posttest was 85.4%.

- The 't' value for knowledge and skill was 15.74 and 30.63 respectively, which was significant at  $p < 0.05$  level. Hence the hypothesis H1 was retained.
- In the pretest mean score of knowledge and skill was  $14.94 \pm 2.99$  and  $14.9 \pm 1.72$  respectively. 'r' value was 0.41. The post-test mean score of knowledge and skill was  $14.9 \pm 1.72$  and  $25.62 \pm 2.31$  respectively. 'r' value was 0.65. Hence the formulated hypothesis H2 was retained at  $p \leq 0.05$  level.
- There was no association found between the knowledge and skill with selected demographic variables such as such as Age, gender, religion, category of course of study and previous knowledge. Hence the research hypothesis H3 is rejected at  $p \geq 0.05$  level.
- There was no association between the skill among the paramedical students with their demographic variables such as Age, gender, religion, category of course of study, and previous knowledge. Hence the research hypothesis H3 was rejected at  $p \geq 0.05$  level.

## 6. Conclusion

The study was done to determine the effectiveness of video assisted teaching programme on knowledge and skill regarding successful ventilation with the I-gel and Laryngeal mask Airway among the paramedical students in the selected area of Salem city, TamilNadu. The result of this study shows that there was a significant improvement in the knowledge and skill regarding successful ventilation with the I-gel and Laryngeal mask Airway among the paramedical students. There was no significant association between knowledge and skill with their selected demographic variable.

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