

**EFFECTIVENESS OF VIDEO ASSISTED TEACHING MODULE REGARDING  
FIRST AID MEASURES FOR FOREIGN BODY ASPIRATION IN PRIMARY  
SCHOOL CHILDREN ON KNOWLEDGE AMONG TTC STUDENTS IN SELECTED  
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**ABSTRACT**

Foreign body aspiration is a frequent cause of accidental death in children below the age of six years all over the world. The study problem was to evaluate the effectiveness of video assisted teaching module regarding first aid measures for foreign body aspiration in primary school children on knowledge among TTC students in selected teachers training certificate institutes at Kollam. The objectives of the study were to assess the knowledge of TTC students regarding first aid measures for foreign body aspiration in primary school children, evaluate the effectiveness of video assisted teaching module regarding first aid measures for foreign body aspiration in primary school children on knowledge among TTC students and find the association between pretest knowledge score of TTC students regarding foreign body aspiration in primary school children and selected demographic variables like age, sex, marital status, basic education and source of information. Quantitative research approach with Quasi experimental pretest –post test comparison group design was adopted for the study. The data obtained were statistically analysed and the result showed that video assisted teaching module was effective in improving the knowledge of TTC students regarding first aid measures for foreign body aspiration in primary school children. There was no significant association between pretest knowledge score and selected demographic variables. The present study showed the need for educating first aid measures for foreign body aspiration in primary school children among TTC students.

**KEYWORDS:** Video assisted teaching module, Knowledge, First aid, Foreign body aspiration, TTC students.**INTRODUCTION**

A large number of foreign body aspiration in the tracheo-bronchial tree occur in the Indian sub-continent. Educational campaigns as a public health measures in some countries have brought down the incidence of foreign body aspiration as well as the associated mortality.<sup>[1]</sup> More than 90 percent of death took place in infants and children younger than five years of age. Round or cylindrical foods were the most common culprits in foreign body aspiration. Foods are the most common cause of choking events in toddlers. The natural curiosity of the toddler, the ubiquitous presence of small foods in the home and the lack of an efficient grinding surface before the eruption of the back molars could explain the high propensity for choking in this age group. Choking on food requires emergency medical attention. As a first aid treatment, the Heimlich Maneuver technique works best.<sup>[2]</sup>

It is impossible to prevent all choking episodes among children. Cardiopulmonary resuscitation and choking first aid (the Heimlich Maneuver technique) for children

should be taught to parents, teachers, childcare providers and others who care for children, particularly children at high risk of choking.<sup>[3]</sup> Most injuries in preschools are require only first aid treatment; therefore preschools are important locations to focus on the prevention of injuries and diseases in children. So there is a need for a higher public awareness of correct first-aid treatments.<sup>[4]</sup> Administering correct and timely first aid to patients after accidents is vital and can potentially save lives.<sup>[5]</sup> In schools, staffs are often first-aid providers. It has become important to determine the current perceptions held by school staff concerning children's accidents.<sup>[6]</sup> Trained individuals who are closer to the scene of the accident should administer first aid. First aid training for regulated day care providers may contribute to children's health and safety.<sup>[7]</sup>

**MATERIALS AND METHODS****Research approach:** Quantitative research approach**Research design:** Quasi experimental pretest post test comparison group design.E O<sub>1</sub> X O<sub>2</sub>

C	O <sub>1</sub>	O <sub>2</sub>
E	-	Experimental group
C	-	Comparison group
O <sub>1</sub>	-	Pre test
X	-	Intervention
O <sub>2</sub>	-	Post test

### Variables

**Demographic variables:** Age, sex, marital status, basic education and source of information.

**Independent variable:** video assisted teaching module.

**Dependent variable:** knowledge

**Setting of the study:** The present study was conducted in Kasthoorbha Teachers Training Institutes, Kollam and Government Teachers Training Institutes, Kollam.

**Study duration:** 7<sup>th</sup> January 2013 to 29<sup>th</sup> January 2013

**Population:** The population for this study is 60 TTC students.

**Sample and Sampling technique:** Sample which was included in the study are 60 TTC Students (30 in experimental group and 30 in comparison group) from selected Teachers Training Institutes in Kollam districts.

This study convenience sampling technique was used by the researcher to determine the most readily available characteristics of the population.

**Tool / Instruments:** The data collection tool consisted of a structured questionnaire to collect the demographic data and assess the knowledge regarding first aid measures for foreign body aspiration in primary school children.

**Description of the tool:** The tool consists of two sections –Section A and Section B

#### Section A

**Part I:** Structured questionnaire to collect demographic data.

**Part II:** Structured questionnaire to assess the knowledge regarding first aid measures for foreign body aspiration in primary school children.

**Section B:** Video assisted teaching module regarding first aid measures for foreign body aspiration in primary school children.

### Method of data collection

The main study was conducted from 7<sup>th</sup> January 2013 to 29<sup>th</sup> January 2013. Convenience sampling technique was used to select the sample. The 60 TTC Students (30 in experimental group and 30 in comparison group) were selected from two Teachers Training Institutes in Kollam districts. After conducting the pretest, the researcher gave the intervention, video assisted teaching module regarding first aid measures for foreign body aspiration in primary school children in experimental group only. After one week, post test was conducted on experimental

and comparison group and the study findings were assessed by using the same tool.

### Data analysis

**1. Descriptive statistics:** Mean, percentage, standard deviation.

### 2. Inferential statistics

't' test: to assess the effectiveness of video assisted teaching module regarding first aid measures for foreign body aspiration in primary school children on knowledge among TTC students.

**Chi-square:** to find the association between pretest knowledge score of TTC students regarding foreign body aspiration in primary school children and selected demographic variables.

## RESULTS

**Section I:** Description of baseline sample characteristics of TTC students.

Demographic characteristics of TTC students

1. It was observed that out of 60 TTC students 73.34 percent were in the age group of 18-21 years, 23.33 percent were in the age group of 22-25 years and 3.33 percent were in the age group of 26-29 years.
2. Out of 60 TTC students 80 percent were females and 20 percent were males.
3. Out of 60 TTC Students 85.5 percent were unmarried and 14.5 percent were married.
4. Out of 60 TTC students 63.33 percent had basic education Plus two, 15 percent had education VHSE, 20 percent had education Degree and 1.67 percent had education Professional diploma.
5. Out of 60 TTC students (46.67 percent) used Television for source of information, (28.33 percent) used News paper, (1.67 percent) used magazine and (23.33 percent) used all mass media for source of information.

**Section II:** Description of knowledge of TTC students on first aid measures for foreign body aspiration in primary school children.

**Table 1: Frequency and percentage distribution of TTC students based on pre test knowledge scores in experimental and comparison group.**

(N=60)

Maximum scores=30

Score	Grading	Experimental Group		Comparison Group		Total	
		f	%	f	%	f	%
<10	Poor	1	3.3	2	6.6	3	5
11-20	Average	29	96.6	28	93.3	57	95
21-30	Good	0	0	0	0	0	0
	Total	30	100	30	100	60	100

Data in table 1 indicate that in the pretest assessment among the experimental group of TTC students, 3.33 percent had poor knowledge and 96.67 percent had average knowledge. No one had good knowledge.

Among the comparison group of TTC students 6.67 percent had poor knowledge and 93.33 percent had average knowledge. No one had good knowledge.

**Table 2: Frequency and Percentage distribution of TTC students based on post test knowledge scores of experimental and comparison group.**

(N=60)

Maximum scores=30

Score	Grading	Experimental Group		Comparison Group		Total	
		f	%	f	%	f	%
<10	Poor	0	0	2	6.7	2	3.3
11-20	Average	0	0	28	93.3	28	46.7
21-30	Good	30	100	0	0	30	50
	Total	30	100	30	100	60	100

Data in table 2 indicate that among the experimental group of TTC students 100 percent had good knowledge. Among the comparison group of TTC students 6.67 percent had poor knowledge and 93.33 percent had average knowledge. No one had good knowledge in the comparison group.

**Section III:** Evaluation of the effectiveness of video assisted teaching module regarding first aid measures for foreign body aspiration in primary school children on knowledge among TTC students.

**Table 3: Mean, Standard deviation, Mean difference, Paired S.D and 't' value of pre test and post test knowledge scores of experimental group of TTC students.**

(n=30)

Knowledge	Mean	SD	Mean Difference	Paired S.D	't' value
Pre-test	14.53	2.03			
			12.44	2.5	27.231*
Post test	26.97	1.67			

 $t_{29}=2.04$ ,  $p=0.001 < 0.05$ 

\*significant at 0.05 level

Result in table 3 shows the mean pre test knowledge score in the experimental group was  $14.53 \pm 2.03$ , whereas the post test knowledge score was increased to  $26.97 \pm 1.67$  with a paired SD of 2.5. Since p-

value(0.001) is less than 0.05, Hence it is proved that there is significant effect of video assisted teaching module in improving the knowledge score of the TTC students in experimental group.

**Table 4: Mean, Standard deviation, Mean Difference, Paired Standard deviation and 't' value of pre test and post test knowledge scores of comparison group of TTC students.**

(n=30)

Knowledge	Mean	SD	Mean Difference	Paired S.D	't' value
Pre-test	14.83	2.49			
			-0.2	1.71	0.641*
Post test	14.63	2.41			

 $t_{29}=2.04$ ,  $p=0.527 > 0.05$ 

Non significant at 0.05 level

Result in table 4 shows that the mean pre test knowledge score in the comparison group was  $14.83 \pm 2.49$ , whereas the post test knowledge score was  $14.63 \pm 2.41$ . There is a slight decrease in the average score of knowledge in the comparison group. Since p- value (0.527) is greater than 0.05. There is no significant difference between the pre test and post test knowledge scores of TTC students in Comparison group.

**Section IV:** Association between pre test knowledge score of TTC students regarding first aid measures for foreign body aspiration in primary school children and selected demographic variables like age, sex, marital status, basic education and source of information.

**Table 5: Association between pre test knowledge score of TTC students regarding first aid measures for foreign body aspiration in primary school children and selected demographic variables like age, sex, marital status, basic education and source of information.**

Sl.No	Variables	Knowledge		$\chi^2$	df	'p' value
		Poor	Average			
1	<b>Age in years</b>					
	18-21	3	41	1.148	2	0.563
	22-25	0	16			
26-29	0	2				
2	<b>Sex</b>			1	0.554	
	Male	11	0.351			
	Female	2	46			
3	<b>Marital status</b>			0.557	1	0.455
	Unmarried	3	48			
	Married	0	9			
4	<b>Basic Education</b>			1.397	3	0.706
	Plus two	2	36			
	VHSE	1	8			
	Degree	0	12			
	Professional diploma	0	1			
5	<b>Source of information</b>			0.3363	3	0.953
	Television	1	27			
	News paper	1	16			
	Magazine	0	1			
	All the above	1	13			

Data presented in the table 5 shows that there was no significant association between pretest knowledge score and selected demographic variables.

The results of the study concluded that video assisted teaching module had a significant effect in improving knowledge of TTC students regarding first aid measures for foreign body aspiration in primary school  $p (< 0.05)$ .

## DISCUSSION

The findings were discussed under four sections.

### Section 1: Description of sample characteristics of TTC students

A study was conducted to assess a baseline level of first aid knowledge and over all attitudes regarding first aid among staff members in Shanghai pre schools. Results showed that 1067 subjects completed the questionnaire. None of the surveyed employees answered all questions correctly; only 39 individuals (3.7 percent) achieved passing scores. The relative number of correct answers to

specific questions ranged from 16.5 percent to 90.2 percent. In particular, subjects lacked knowledge regarding first aid for convulsive seizures (only 16.5 percent answered correctly), chemical injuries to the eye (23 percent), inhaled poison (27.6 percent), and choking and coughing (30.1 percent). A multiple line regression analysis showed scores were significantly higher among staff members with more education, those who had received first aid training before or were already healthcare providers, younger employees, and staff members from rural districts. Most employees agreed that giving first aid was helpful; the vast majority felt that it was important and useful for them to learn pediatric first aid.<sup>[10]</sup>

The present study was conducted among TTC students in selected teachers training certificate institutes. A structured questionnaire was used to assess the knowledge regarding first aid measures for foreign body aspiration in primary school children. This study observed that out of 60 TTC students 73.34 percent were

in the age group of 18-21 years, 23.33 percent were in the age group of 22-25 years and 3.33 percent were in the age group of 26-29 years. Out of 60 TTC students 80 percent were females and 20 percent were males. Out of 60 TTC Students 85.5 percent were unmarried and 14.5 percent were married. Out of 60 TTC students 63.33 percent had basic education Plus two, 15 percent had education VHSE, 20 percent had education Degree and 1.67 percent had education Professional diploma. Out of 60 TTC students (46.67 percent) used Television for source of information, (28.33 percent) used News paper, (1.67 percent) used magazine and (23.33 percent) used all mass media for source of information.

### **Section 2: knowledge of TTC students regarding first aid measures for foreign body aspiration in primary school children**

A study conducted by Department of Paediatric Surgery, Christian Medical college and Hospital, Ludhiana showed that foreign body aspiration remains a huge problem and a major cause of accidental death in children around the world. This study found that uneducated care givers had a 7.5 times higher chance of having no knowledge of this entity than educated ones. Results in this study reflect an ambivalent attitude toward this life-threatening condition with 61.3 percent of the caregivers in the high-risk group (1-5 years) having taken no measures in their homes and schools to prevent foreign body aspiration.<sup>[1]</sup>

A study was conducted to evaluate parents knowledge regarding foreign body aspiration and determine the factors that are associated with lack of knowledge. The study result found out that 1490 questionnaires answered by mothers were analyzed. Only 4.3 percent of mothers did not recognize a small toy as a cause of foreign body aspiration, while 20.2 percent did not know that peanuts and other nuts can be causes of foreign body aspiration and 48.1 percent did not know that they should not give peanuts to a child younger than three years old. Regarding clinical signs, 27.7 percent and 41.8 percent of mothers did not know that sudden choking and sudden coughing were symptoms suggesting foreign body aspiration.<sup>[12]</sup>

The present study found that out of 60 students, five percent had poor knowledge and 95 percent had average knowledge on pretest assessment. In post test assessment 3.33 percent had poor knowledge and 46.67 percent had average knowledge and 50 percent had good knowledge. The mean pretest score of knowledge was 14.53 and standard deviation was 2.03 and the mean post test score was 26.97 and standard deviation was 1.67 in experimental group.

The mean pre test score of knowledge was 14.83 and standard deviation was 2.49 and the mean post test score was 14.63 and standard deviation was 2.41 in comparison group.

### **Section 3: Effectiveness of video assisted teaching module regarding first aid measures for foreign body aspiration in primary school children on knowledge among TTC students**

A study was conducted to assess the knowledge, attitude and practice of undergraduate students regarding first aid measures. The study result showed that a total of 446 students were interviewed, 17.5 percent students had first aid training. The mean number of correct answers of students with first aid training was 10.3 ( $\pm 3.5$ ) as opposed to 8.58 ( $\pm 4.0$ ) in those without first aid training ( $P < 0.001$ ) with a mean difference of 7.84 percent. The mean number of correct answers by medical students with first aid training was 11.2 ( $\pm 2.9$ ) as opposed to 7.2 ( $\pm 3.43$ ) by non-medical students ( $p < 0.001$ ) with a mean difference of 18.14 percent. Students having received formal first aid training scored better than those who had not ( $p < 0.001$ ). Therefore first aid training programmes should be introduced at school and college level in developing countries to decrease the early mortality and morbidity of accidents and emergencies.

A study conducted in UAE on the efficacy of first aid training programme for first year medical students showed that the programme provides students with sound first aid knowledge and practical basic life saving skills. Another study done in Turkey stated that it was highly effective to teach medical students first aid and basic life saving skills as they can form effective peer first aid trainers for other university students.<sup>[11]</sup>

In Brazil, a study was conducted to evaluate the first aid skills of adult population. It was concluded that those who had a previous exposure to televised first aid training performed 9-96 percent of the skills correctly while in the control group 1-34 percent correctly performed the skills.<sup>[12]</sup>

The findings of the present study were congruent with the findings of this study as the TTC students had an improvement in their knowledge level. The paired 't' value of knowledge among experimental group was 27.231 and the p value (0.001) is less than 0.05 and is significant. The paired 't' value of knowledge among comparison group was 0.641 and the p value (0.527) is greater than 0.05 and is not significant. Thus there is significant improvement in the knowledge level of students in the experimental group and there is no significant change in the knowledge level of comparison group. Hence the video assisted teaching module used in the present study is effective in improving the knowledge.

### **Section 4: Association between knowledge of TTC students regarding first aid measures for foreign body aspiration in primary school children and demographic variables like age, sex, marital status, basic education and source of information**

A study conducted on assessment of knowledge on practice regarding first aid measures among the self help

groups in selected areas of Mangalore with a view to develop information module. In this study there is no significant association between knowledge and selected demographic variables like age, educational status, membership in any social organization, occupation, place of living, and source of information other than gender. The Chi square for the demographic variable like gender (7.853) the two calculated value is greater than the table value (3.84) and also since the  $p < 0.05$ , the research hypothesis is accepted because there is a significant association between the gender and first aid knowledge of self help group members.<sup>[6]</sup>

Findings of the study are congruent with the findings of this study. In the present study chi square analysis reveals that there is no significant association between knowledge and selected demographic variables like age, sex, marital status, basic education and source of information.

### CONCLUSION

Foreign bodies are a life-threatening event in children that require early diagnosis and prompt successful management.<sup>[12]</sup> Prevention is the most critical element in reducing morbidity. Since prevention is the key for dealing with these types of injuries. More effort in the caregivers' education is warranted. Prevention of aspiration of foreign bodies is better than the cure. Public awareness through the mass media should draw attention and help to prevent the foreign body inhalation. A well-defined public education programmes could achieve prevention.<sup>[13]</sup>

Health education is one of the most cost effective interventions. Nursing practice is more concerned with promotion of health and prevention of illness. Nursing practice has a significant impact on the health of the community. They have an important role in imparting knowledge regarding first aid measures for foreign body aspiration in primary school children. They work in various settings such as rural and urban community school settings, hospital settings and many other areas. So that they can utilize the opportunity to spread awareness on knowledge regarding first aid measures for foreign body aspiration in primary school children.

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