

# Effectiveness of Video Assisted Teaching on Knowledge regarding Shaken Baby Syndrome (SBS) among Caregivers of Infants in Pediatric Ward at Shri Mahant Indires Hospital, Patel Nagar, Dehradun

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**Abstract:** *Shaken baby syndrome is a serious form of abuse inflicted upon a child resulting in serious neurological injury and death. Children are usually shaken in response to prolong inconsolable cry. The perpetrator is generally of limited patience and experience in handling a child. Shaken babies are usually one year old, and most are under six months of age. It has been found that shaken baby syndrome can be effectively prevented by imparting education and awareness among parents, caregivers and community members. A pre-experimental study was conducted to assess the effectiveness of video assisted teaching programme on knowledge regarding shaken baby syndrome among caregivers of infants in Shri Mahant Indires Hospital, Patel Nagar, Dehradun. An evaluative research approach Pre experimental design was used for this study. The sample consisted of 60 caregivers of infants in pediatric ward at Shri Mahant Indires Hospital, Patel Nagar, Dehradun. They were selected by non-probability convenient sampling technique. A structured knowledge questionnaire was used for the data collection. Data collection was analyzed and interpreted by using descriptive and inferential statistics. It shows that the mean post-test knowledge score value among caregivers of infants were significantly higher than the mean pre-test value. The calculated "t" value (45.26) is more than the table value (2.00) at P<0.05 level of significance, Hence stated research hypothesis (H1) was accepted. The demographic variable such as type of family and religion shows statistical significant association with the pre - test level of knowledge. Hence research hypothesis (H2) was accepted. The result shows that the caregiver's knowledge level improved after implementation of video assisted teaching and the study indicates that the video assisted teaching is an effective method in improving moderate to adequate level of knowledge regarding health topics to the present day society where much attention is given to health promotion rather than treating the disease after acquiring it.*

**Keywords:** Shaken Baby Syndrome, Knowledge, Video Assisted Teaching Program, Effectiveness, and Caregivers of infants.

## 1. Introduction

**"It only takes 30 seconds to change your baby's life forever. Never shake your baby".**

Physical abuse is the leading cause of serious head injury in infants. Although physical abuse in the past has been a diagnosis of exclusion, data regarding the nature and frequency of head trauma consistently support the need for a presumption of child abuse when a child younger than 1 year has suffered an intracranial injury.

Shaken baby syndrome is the medical term used to describe the injuries resulting from shaking an infant or young child. Introduced in medical literature in 1972, shaken baby syndrome occurs when a child is shaken violently as part of an adult or caregiver's pattern of abuse or because an adult or caregiver momentarily succumbs to the frustration of having to respond to a crying baby. Shaken baby syndrome is a clearly definable medical condition. A proper response requires integration of specific clinical management and community intervention in an interdisciplinary fashion.

Shaken baby syndrome can occur from as little as 5 seconds of shaking. Shaken baby injuries usually occur in children younger than 2 years old, but may be seen in children up to the age of 5. In most cases, an angry parent or caregiver shakes the baby to punish or quiet the child. Such shaking

usually takes place when the infant is crying inconsolably and the frustrated caregiver loses control. Many times the caregiver did not intend to harm the baby. Still, it is a form of child abuse. When an infant or toddler is shaken, the brain bounces back and forth against the skull. This can cause bruising of the brain (cerebral contusion), swelling, pressure, and bleeding in the brain. The large veins along the outside in the brain may tear, leading to further bleeding, swelling and increased pressure. This can easily cause permanent brain damage or death. Shaking an infant or small child may cause other injuries, such as damage to the neck, spine and eyes.

Shaken baby syndrome (SBS) is caused by violent shaking, with or without blunt trauma, resulting in head trauma. It's also known as inflicted traumatic brain injury, abusive head trauma, or abusive head injury. Infants from birth to age 1 year, especially those ages 2 to 4 months, are at greatest risk of injury from shaking. Infants are especially vulnerable to head injuries caused by shaking because they have a very large head-to-body ratio and weak neck muscles and ligaments. An infant's head accounts for 12% of total body weight. This weight, accompanied by undeveloped neck muscles and ligaments, makes infants susceptible to acceleration/deceleration injuries.

Normal interaction with a child, like bouncing the baby on a knee, will not cause these injuries, although it's important to

Volume 9 Issue 8, August 2020

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never shake a baby under any circumstances because gentle shaking can rapidly escalate. The more serious the child's neurological injury, the more severe the symptoms and the shorter the period of time between the shaking and the appearance of symptoms. From the time of the shaking these children do not look or act as usual - they may not eat or sleep or play normally.

The outcome for infants who suffer brain damage from shaking can range from no apparent effects to permanent disability, including developmental delay, seizures and/or paralysis, blindness and even death. Survivors may have significant delayed effects of neurological injury resulting in a range of impairments seen over the course of the child's life, including cognitive deficits and behavioral problems.

### Objectives

- To assess the level of knowledge among caregiver of infants regarding shaken baby syndrome.
- To determine the effectiveness of video assisted teaching program among caregivers of infants regarding shaken baby syndrome.
- To find out the association between pre - test level of knowledge of caregiver with the selected socio-demographic variables.

### Hypothesis

- **H1-** There will be a significant change in knowledge of care givers regarding Shaken baby syndrome after the introduction of intervention (Video assisted teaching).
- **H2-** There will be a significant association between the pre - test knowledge score among caregivers of infants on shaken baby syndrome with their selected demographic variables.

## 2. Material and Methods

### Research Approach

A quantitative research approach is used for this study.

### Research Design

In the present study, pre-experimental (one group pre- test and post- test research design) was used.

### Population

In this study accessible population are all the caregivers of infants admitted in the pediatric ward at Shri Mahant Indires Hospital, Patel Nagar Dehradun.

### Sample

The sample selected for this study is caregivers of infants in pediatric ward at Shri Mahant Indires hospital, Dehradun.

### Sample Size

In this study, sample comprises of 60 caregivers of infant admitted in pediatric ward in Shri Mahant Indires Hospital, Patel Nagar, Dehradun Uttarakhand.

### Sampling Technique

In this study, a non-probability convenient sampling technique was used for sampling the caregivers of infant admitted in pediatric ward.

### Description of the tool

The tool used in the present study consist of following

#### Section- A

It comprised of seven items seeking information on demographic characteristics of the caregivers of infants such as age, religion, educational status, occupation, type of family, family income, source of information.

#### Section- B

This part of the tool consists of thirty structures questionnaire on knowledge regarding Shaken Baby Syndrome.

The items were closed ended statements of multiple choice types. The total was thirty. The tool was prepared in English and Hindi.

The knowledge of the respondent was arbitrarily categorized into three categories:

Level of knowledge	Score
Inadequate	0 - 14
Moderate	15 - 22
Adequate	23 - 30

#### Description of video assisted teaching:

The VAT was entitled "Shaken Baby Syndrome". The VAT was prepared to enhance knowledge of the caregivers of infants regarding shaken baby syndrome. It consists of following content area.

- Introduction
- Causes
- Sign and symptoms
- Diagnostic evaluation
- Risk factors
- Treatment
- Prevention

#### Plan for Data Analysis

The data obtained was planned to be analyzed based on objectives and hypothesis of the study using descriptive and inferential statistics. Analyzed data is represented in the form of tables, graphs and figures.

#### Descriptive statistics:

Frequency, percentage and mean were used to analyze the demographic variable of pre- test and post- test assessment.

#### Inferential Statistics

- Paired t- test was used to determine the differences between pre -test and post- test in term of increasing knowledge level.
  - Chi – square was used to find association between the knowledge with their selected demographic variables.
- Level of significance is set at 0.5 to interpret the hypothesis and finding.

## 3. Results

The major findings of the study were as follows:

#### Section A: Frequency and Percentage Distribution of sample according to demographic variables.

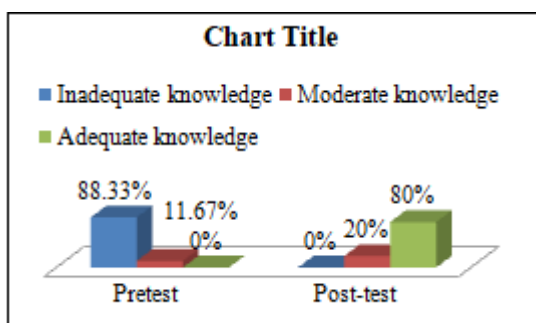
According to their demographic details the majority of the respondent 31 (51%) were in the age group between 26 – 30 years, 25(41%) were Hindu, 28(43%) has intermediate education, 34 (55%) are housewife, 27(45%) were lives in

joint family, 19(31%) were have family income 25,001-30,000, 30(50%) source of information from media.

**Section B:** Effectiveness of intervention in the terms of increase the knowledge level.

**Table 1:** Frequency and percentage distribution of the pre and post test score value, N = 60

Level of knowledge	Score Range	Pre –Test		Post-Test	
		Frequency (n = 60)	Percentage (%)	Frequency (N=60)	Percentage (%)
Inadequate knowledge	<50%	53	88.3%	0	0%
Moderate knowledge	51-75%	7	11.6%	12	20%
Adequate knowledge	76-100%	0	0%	48	80%



**Figure 1:** Bar diagram showing comparison between the pretest and posttest level of knowledge among caregivers of infants and significance of video assisted teaching program in increasing level of knowledge.

Data in table 1, and fg-1 shows that the knowledge of caregivers of infants regarding shaken baby syndrome. In the pre- test 88.33% sample score ranging <50% ( inadequate knowledge) and 11.67% had score between 51-75% (Moderate knowledge) which shows majority of sample are having inadequate level of knowledge, and in the post-test 80% sample score ranging between 76-100% (Adequate knowledge) and 20% had score between 51-75% (Moderate knowledge) and 0% of sample score <50% (Inadequate knowledge). It is clearly indicates that there was increase the level of knowledge after video assisted teaching program.

**Section C: Comparison of Pre Test and Post Test Knowledge Score**

**Hypothesis testing:-**

**H1:** There will be a significant change in knowledge of care givers regarding Shaken baby syndrome after the introduction of intervention (Video assisted teaching).

**To test the above hypothesis we use the "paired -t" test for pre and post observations**

**Table 2:** "t" value between the pretest and post test score value, N=60

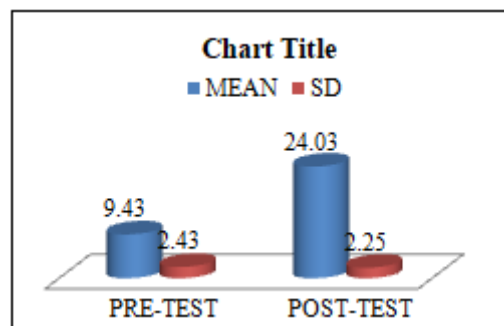
Knowledge score value	Mean	SD	df	Calculated "t" value	T-Value	Level of significance
Pre test	9.43	2.43	59	45.26	2.00	Highly significant
Post test	24.03	2.24				

Data shown in table 2, revealed that the mean post-test knowledge score value among caregivers of infants were significantly higher than the mean posttest value. The calculated "t" value (45.26) is more than the table value

(2.00) at P<0.05 level of significance. Therefore it can be sad that the video assisted teaching program was effective in increasing knowledge level among caregivers.

Hence the hypothesis (H1) is accepted.

**Pre-Test, Post-Test Mean and SD Value**



**Figure 2:** The diagram shows the pre-test, mean and SD value and post-test, mean and SD value

**Section D:** Association of pre- test knowledge score and demographic variable

**Hypothesis testing**

- **H2:** There is a significant association between pretest knowledge score on shaken baby syndrome and selected demographic variables.

The result of chi square analysis depicts that the demographic variable such as religion, type of family shows statistical significant association with the pre-test level of knowledge and there was no significant association of the other demographic variable with their pretest level of knowledge. The obtained chi square value of the variables such as Age (X<sup>2</sup> =4.11, P>0.5), Religion (X<sup>2</sup> =8.66, P>0.5), Educational status (X<sup>2</sup> =2.24, P>0.5), Occupation(X<sup>2</sup> =2.48, P>0.5), Type of family (X<sup>2</sup> =8.22, P>0.5), Family income(X<sup>2</sup> =0.93, P>0.5), Source of information(X<sup>2</sup> =3.39, P>0.5). Hence research hypothesis (H<sub>2</sub>) was accepted and null hypothesis was rejected.

**4. Conclusion**

On the basis of findings the study below said conclusion was drawn. It also brings out the limitation of the study in picture.

The pretest knowledge score was less among caregivers of infants. After video assisted teaching program the knowledge score was increased. So it is effective.

From the finding of the study, religion of the caregivers reveals that highest percentage of caregivers was Hindu, and highest percentage of caregivers belongs to joint families.

During the posttest analysis reveals that most of the caregivers were having adequate knowledge and some are having moderate knowledge based on pretest and posttest assessment significant difference ( $p < 0.05$ ) is found between pretest and post test score was demonstrated by using paired 't' test, it was found that video assisted teaching program was effective.

The association between the pretest and selected demographic variables was found by using chi square test which shows there was significant association only with religion and type of the family of caregivers of infants with the level of knowledge regarding shaken baby syndrome, and no significant of association was observed between pretest score of the caregivers relation to the age, educational status, occupation, family income and their source of information.

## 5. Nursing Implications

The finding of this study have implication for nursing education, nursing practice, nursing administration, nursing research and it also insight in the future studies.

### Nursing Education:-

The study reveals that there is lack of knowledge regarding shaken baby syndrome among caregivers of infants. The major implication of this study in general and nursing education enhance the knowledge on prevention of shaken baby syndrome as an important aspect of basic education program. The primary task of education would be to implement education through the special training should be given to community health workers and should conduct awareness program in hospitals and community centers regarding prevention of shaken baby syndrome. And it helps to protect the children's from damage.

### Nursing Practice:-

The study reveals that there is need for motivation and education program on shaken baby syndrome. It stresses on the need to involve parents, community leaders and health care professionals in planning and conducting various awareness and prevention program. Nursing professionals have adequate knowledge regarding shaken baby syndrome in order to educate the mother and family regarding the cause, signs/symptoms, and its management in pediatric wards and community settings.

### Nursing Administration:-

The nursing administration should plan and organize the in-service education and continuing nursing education regarding awareness of shaken baby syndrome to the nursing staff so they can organized different program regarding shaken baby syndrome in hospital and community

setting to educate them and reduce the incidence of shaken baby syndrome in society.

### Nursing Research:-

The study reveals the lack of knowledge regarding Shaken baby syndrome and the need to continue effective prevention program for parents and family. Various methods of educating parents and community members must be used in order to educate them and reduce the incidence of shaken baby syndrome.

## 6. Recommendation

- A future study can be conducted in community setting.
- A future study can be conducted in staff nurses.
- Prevention of shaken baby syndrome should be implemented in the curriculum of school and college.
- Special knowledge should be given to the community people to involve, plan, organize and motivation regarding prevention of Shaken baby syndrome.

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