A Study to Assess the Effectiveness of Video Assisted Teaching Programme on Knowledge regarding Shaken Baby Syndrome among the Mothers of Infants and Toddlers in Pediatric Ward, SMI Hospital, Dehraun

Gaurav Negi[1], Archana Maletha[2]

[1]Msc Nursing, SGRRIM HS College of Nursing Dehradun

[2]Assistant Professor, SGRRIM HS College of Nursing, Dehradun

Abstract: *Shaken baby syndrome, also known as Abusive Head Trauma, is a deadly brain injury caused by a person violently shaking an infant or toddler. It is usually the result of an unhappy parent or caregiver. According to the Department of Pediatrics at Yale University, "abusive head trauma" is 2 the leading cause of traumatic death in infancy and causes considerable morbidity in children younger than 2 years.* <u>*Objectives*</u>*: To evaluate the effectiveness of video assisted teaching program among mothers of infants and toddlers regarding shaken baby syndrome.* <u>*Methods and Materials*</u>*: Quantitative Approach with pre-experimental (one group pretest, posttest) Research design was used in the study. A convenient sampling technique was used to collect data from 60 mothers of infants and toddlers in pediatric unit SMI, Dehradun. Video-assisted teaching was conducted for 20-25 minutes for one day. Data was collected by using a self-structured questionnaire.* <u>*Results*</u>*: A significant effectiveness after video assisted teaching programme with a mean difference of 14.04. The calculated 't' value as 33.691 greater than the tabulated value (2.00) at p <0.05 level of significance (p value is less than 0.05).* <u>*Conclusion*</u>*: This study concluded that the video assisted teaching programme was effective and this can enhance the knowledge of mothers of infants and toddlers regarding shaken baby syndrome.*

Keywords: Assess, knowledge, effectiveness, video assisted teaching, shaken baby syndrome, mothers of infants and toddlers.

1. Introduction

Head injuries are the leading cause of traumatic death and the leading cause of child abuse fatalities. Homicide is the leading cause of injury-related deaths in children younger than four years. Shaken baby syndrome, also known as Abusive Head Trauma, is a deadly brain injury caused by a person who's shaking an infant or toddler violently.

In the first year of life, the incidence of abusive head trauma is estimated to be approximately 35 Cases per 100,000 babies. The morbidity and mortality from abusive head trauma are significant. Approximately 65% have significant neurological disabilities, and between 5 and 35% of infants die of injuries sustained. Most survivors have both cognitive and neurological impairment.

Abusive head trauma (AHT) including "shaken baby syndrome" and "non-accidental trauma" describes inflicted head injuries on young children. AHT is among one of the common causes of death and disability among infants and children, impulsive loading, impact loading, or both may be the cause of cerebral injury in AHT. Impulsive-loading refers to non-impact forces generated by severe rotational angular velocity and acceleration/deceleration forces often associated with violent shaking.

According to the Department of Pediatrics at Yale University, "abusive head trauma is 2 the leading cause of traumatic death in infancy and causes considerable morbidity in children 'less than two years old.' The brain shows internal when a child or baby is shaken violently. Bleeding, bruises, and swelling. It destroys brain cells and prevents oxygen from entering the brain.

The reason for this is that the neck muscles of a newborn aren't strong enough to support their head fully. In normal play interactions with children, for example bouncing the child on his knee or pushing him up the air.

Shaken baby syndrome is completely preventable. The task of caring for a baby can be difficult, in particular for first time parents. It's important to remember, though, that shaking, throwing and hitting a child is never acceptable. In order to prevent abuse, it is important to follow these guidelines.

Get deep, count to 10, take some time and allow the child to cry alone, call someone. Emotional support, your baby may have a medical reason for crying, Call the Paediatrician. Never leave your child with caregivers, friends or family members whom you not trusting, before you entrust the baby to a nanny or childcare centre, always make sure your references are accurate center.

2. Methods and Materials

A pre-experimental study. A convenient sampling technique was used to collect data from 60 samples of mothers of infants and toddlers in pediatric unit SMI, Hospital

Dehradun. The Inclusion Criteria for the study were mothers of infants and toddlers in selected in pediatric unit SMI, Hospital Dehradun and mothers of infants and toddlers who are willing to participate in the study. Who are available at the time period of data collection. Mothers of infants and toddlers who are not willing to participate in studying and mothers who attend any workshop or conference on shaken baby syndrome were exclusion criteria. The self administrated questionnaire method was used to assess the effectiveness of the video teaching program on knowledge of shaken baby syndrome among mothers of infants and toddlers. Pretest was conducted with the help of the Structure teaching questionnaire. After that, administered a video assisted Teaching Programme to the same mothers of infants and toddlers. The post-test was done for 7 days using the same questionnaire and the data collection process was terminated by thanking the subjects for their cooperation .It took an average time of about 20-25 minutes for each subject. Data analysis was done by using SPSS version 25. I used both descriptive (mean, percentage. standard deviation) and inferential statistics.

Instrument tool
The tool used in the present study consists of following:

Section- A It comprised of seven items seeking information on demographic characteristics of the mothers of infants and toddlers such as age, religion, family type, residence area, educational status, occupation, family income, number of children, pervious knowledge, 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 knowledge 0 - 14
Moderate knowledge 15 – 22
Adequate knowledge 23 – 30

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. Result

Frequency and percentage distribution were used to analyze the demographic variables and the mean and standard deviation were calculated. t' test can be done for comparison of pretest and posttest values and also assess the effectiveness of video assisted teaching program on knowledge regarding shaken baby syndrome.

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% (1to<15)	58	96.66%	00	00
Moderate Knowledge	50-75% (15-22)	2	3.33%	8	13.3%
Adequate Knowledge	>75% (23 to 30)	00	00	52	86.6%

Table 2: Comparison of mean, standard deviation of pre-test and post-test levels of knowledge regarding shaken baby syndrome among mothers of infants and toddlers, N= 60

S.NO	Assessment	Mean	Mean difference	Standard deviation
1.	Pre-test	9.46	14.04	2.06
2.	Post-test	23.5		2.07

Table 3: 't' value of pre-test and post-test score.

Knowledge score value	Mean	SD	Df	Calculated "t" value	Tabulated "t" value	Level of significance
Pre-test	9.46	2.06	59	33.691	2.00	Significant
Post-test	23.5	2.07				

Paired 't' test (calculated t = 33.691, p< 0.05)

Table 4: Association between the pretest knowledge score among mothers of infants and toddlers with selected demographic variables

S.N	Demographic Variables	Inadequate knowledge	Moderate knowledge	Adequate knowledge	Df	Chi Square value	Tabulated "t" value	"p" value	Level of associate
1	Age in years								
a.	21–25years	17	1	0	3	0.568	7.82	0.9	#
b.	26–30years	33	1	0					
c.	31–35years	7	0	0					
d.	35andabove	1	0	0					
2	Religion								
a.	Hindu	31	1	0	3	2.349	7.82	0.5	#
b.	Muslim	12	0	0					
c.	Sikh	8	1	0					
d.	Christian	7	0	0					
3	Family type								
a.	Nuclear	0.3	0	0	1	2.069	3.84	0.15	#
b.	Joint extended	28	2	0					
4	Residential Area								
a.	Rural area	27	1	0	1	0.009	3.84	0.92	#
b.	Urban area	31	1	0					
5	Education								
a.	Primary	46	2	0	3	0.517	7.82	0.91	#
b.	Secondary	3	0	0					
c.	Graduate	9	0	0					
d.	Postgraduate	3	0	0					
6	Occupation								
a.	House wife	12	1	0	3	4.198	7.82	0.24	#
b.	Self employed	27	0	0					
c.	Business	12	0	0					
d.	Others	7	1	0					
7	Family income								
a.	Low	12	1	0	2	0.195	5.99	0.9	#
b.	Middle	27	0	0					
c.	High	7	1	0					
8	Number of children								
a.	1	8	1	0	1	1.988	3.84	0.15	#
b.	2	50	1	0					
c.	3	0	0	0					
d.	4	0	0	0					
9	Previous knowledge								
a.	Yes	8	0	0	1	0.318	3.84	0.57	#
b.	No	50	2	0					
10	Source of Information								
a.	Health worker	5	0	0	3	3.825	7.82	0.28	#
b.	Multimedia	6	0	0					
c.	Newspaper	5	1	0					
d.	Others	42	1	0					

#=not significant

4. Discussion

The findings revealed that in the pre-test majority (96.6%) of the samples had inadequate knowledge, (3.3%) of them had moderate knowledge and none of them had adequate knowledge. But in the post-test (86.6%) of them had adequate knowledge, (13.3%) of them had moderate knowledge and none of them had inadequate knowledge regarding shaken baby syndrome. As well as overall mean pre-test knowledge score was 9.46, SD was 2.06 and the overall post-test knowledge mean score was 23.5, SD 2.07 respectively.

The mean post-test knowledge score of mothers of infants and toddlers and toddlers after video assisted teaching programme was significantly higher (mean difference 14.04), than the mean pretest knowledge scores. It indicates that there was a significant improvement in the level of knowledge of participants.

The calculated "t" value was 33.691 on analysis of the data were found to be significant at p value 0.05. Therefore, it can be said that the video assisted teaching programme was effective in increasing knowledge level among mothers of infants and toddlers and toddlers, regarding shaken baby syndrome.

As the x2 value shows that there is no association with any of the demographic variables was found and hypothesis H2 stated that there would be a significance association between the pretest knowledge among mothers of infants and toddlers regarding shaken baby syndrome and selected demographic variables. Hence, the research hypothesis is not accepted.

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