

# Effectiveness of Video Assisted Teaching Programme on Knowledge Regarding Prevention of Shaken Baby Syndrome among Antenatal Women at Selected Hospitals of Bangalore, India

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## ABSTARCT

**INTRODUCTION:** The objective of the study was to evaluate the effectiveness of video assisted teaching on knowledge regarding prevention of shaken baby syndrome among antenatal women and also the association between knowledge with their selected socio-demographical variables. **MATERIALS AND METHODS:** A one group pre-test and post-test design was adopted. Structured knowledge questionnaire was prepared. The data were collected from 60 women who attend the OPD for antenatal regular checkup using non probability purposive sampling techniques. The reliability of tools was established (0.724). Pilot study was conducted. The data was analyzed and interpreted using descriptive and inferential statistics. **RESULTS:** The findings revealed that the overall mean pre-test Knowledge score was 11.06 and the overall post-test knowledge score was 19.98 respectively. The mean post-test knowledge score of antenatal women who were exposed to video assisted teaching were significantly higher, than the mean pretest knowledge scores. There was suggestive significance between the knowledge scores and demographic variables. The findings suggest that the video assisted teaching program is an effective teaching strategy to enhance the knowledge of antenatal women, regarding prevention of shaken baby syndrome. **CONCLUSIONS:** The post-test knowledge score was higher than pretest knowledge score regarding prevention of Shaken Baby Syndrome among antenatal women. The study concluded that, the video assisted teaching Program was an effective teaching strategy, to enhance knowledge of antenatal women regarding prevention of shaken baby syndrome.

**Keywords:** Antenatal women, effectiveness, knowledge, shaken baby syndrome, video assisted teaching

## INTRODUCTION

Shaken baby syndrome (SBS) is a collective term for internal head injuries of a baby or young child, sustained from being violently shaken. It was first identified in the 1970s by Caffey as whiplash injury [1]. SBS is also known as abusive head trauma, shaken brain trauma, pediatric traumatic brain injury, whiplash shaken baby syndrome and shaken impact syndrome [2]. The brain damage can also be as a result of an accident. The force and length of the force necessary to cause shaken baby syndrome is

debatable. But, over 20 seconds of continuous vigorous shaking of the baby for various causes like shaking baby in joy or while consoling the cry of baby itself may lead to this syndrome [3]. A child or baby who has been shaken and has pressure on the brain and may have symptoms like: extreme irritability, vomiting, poor appetite or feeding problems, breathing difficulties, convulsions, lethargy, pale or blue-colored skin, bruising (grab marks on the arms or chest), forehead that appears larger than usual, or a

soft spot that seems to be bulging, inability to lift his or her head, tremors, unconsciousness and coma. The injuries seen in SBS may include subdural hematomas, sub-arachnoid hemorrhage, retinal hemorrhages, ribs fractures, long bone fracture bruises, laceration or other fracture due to impact. Shaking can cause brain injury, cerebral palsy, blindness, hearing loss, learning and behavior problems, seizures, paralysis and death [4]. In surveys carried out in the USA, 50% to 75% of teenagers and young adults stated they did not know that shaking was dangerous and between 2.6% and 4.4% of the parents of children under 2 years of age reported they had shaken their child at least once. The equivalent figure for parents in Indian city slums was 42% [5]. Statistics indicate that two-thirds to

three-fourths of the people found guilty of shaking babies are male. It is not only males who shake babies, mothers, caregivers and siblings have also been found to have shaken babies. SBS can happen among families of any ethnicity, any income range and with any type of family composition [6]. The incidence of SBS peaks between 2.5 and 4 months, and it is estimated that the first episode likely occurs around 6 weeks, the average age at which crying peaks. Therefore, the objective of this study was to evaluate the effectiveness of video assisted teaching on knowledge regarding prevention of SBS among antenatal women and the association between knowledge with their selected socio-demographical variables.

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## **MATERIALS AND METHODS**

### **Study design and setting**

This pilot study was conducted in the Department of Obstetrics and Gynaecological Nursing, Vydehi Institute of Nursing Sciences & Research Centre, Bangalore from in 2017 AD. Non-probability purposive sampling technique was used.

### **Participants and study procedures**

An average of 3-5 antenatal women were selected each day. Sixty antenatal women were selected from Obstetrics and Gynaecology OPD. The purpose of the study was explained and the subject's willingness to participate in the study was ascertained. The investigator administered questionnaire for pretest. Each subject took 5-7 minutes. After the completion of the pretest through video assisted teaching program, a sequential presentation of information regarding prevention of SBS such as definition, incidence, risk factors, signs and symptoms, management, complication, prognosis and preventive measures with the help of video was organized and it was conducted on same day for 20-25 minutes. Post test was conducted on next visit in the same manner as pretest was conducted. Antenatal woman attending regular antenatal visit at OPD who were primi and multi gravida were included.

Also, antenatal woman who were in 32 -38 weeks of

gestational period were included. Antenatal woman not willing to participate and who were sick during the time of data collection were excluded. Structured knowledge based questionnaire was chosen to assess the knowledge level of antenatal women with the help of literature reviews, expert's suggestions and opinions. The validity of the tool was checked by four experts and as per their suggestion, required modification was made.

Demographic variables of antenatal women such as age, religion, education, occupation, place of residence, family monthly income, gravida, types of family, information about SBS was included. The pretest was conducted in Vydehi hospital, Whitefield, Bangalore. The reliability was established by test and retest method using Karl Pearson's correlation coefficient method.

Ethical approval was obtained from Vydehi Institute of Nursing Sciences and Research Centre, Bangalore. A written informed consent was also taken individually from all the subjects who participated in this study. The subjects were informed that their participation was voluntary and had the freedom to dropout from the study when they liked to do so. The subjects were assured for anonymity and confidentiality of the information provided by them.

**Statistical consideration**

The data was analyzed in terms of frequency, percentage, mean, standard deviation and was presented in the form of tables and diagrams.

**RESULTS**

**Distribution of socio-demographic variables of antenatal women**

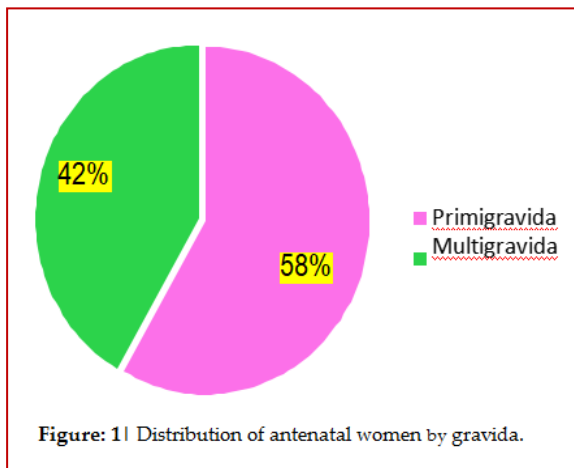
Out of 60 respondents, 26 (43.3%) of the subjects were in the age group of 21-25 years, 18 (30%) subjects were in the age of 26-30 group years, and 16 (26.7%) subjects were in the age group of 31-35 years. Majority of women were housewives, resided in urban area with family income between Rs. 5,000 to 10,000. Most of the subjects 45 (75%) were Hindu, 11(18.3%) were Christian and 4 (6.7%) were Muslim. Regarding educational qualification, majority of antenatal women 20 (33.3%) received PUC level qualification, 16 (26.7%) had primary qualification, 8 (13.3%) had secondary level qualification, 10 (16.7%) and 6 (10%) had graduate and postgraduate qualification (Table 1).

Distribution of antenatal women according to the gravida showed that 35 (58.3%) subjects were primigravida and 25 (41.7%) were multigravida (Figure 1). Figure 2 shows, the distribution of antenatal women according to the types of family where 34 (56.67%) subjects belonged to nuclear family, 24 (40%) belonged to joint family and 2 (3.33%) belonged to extended family.

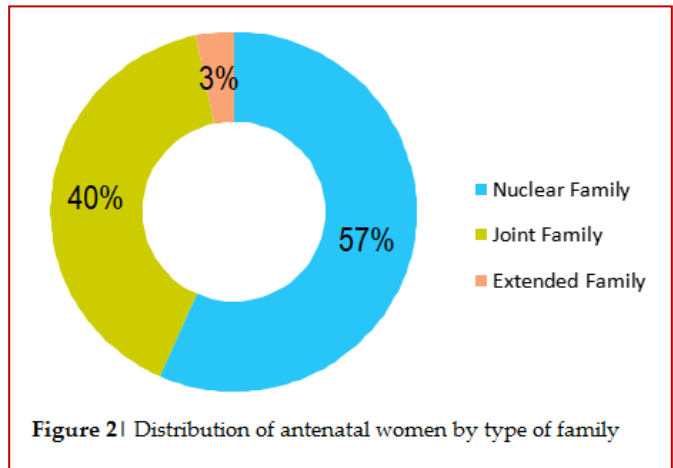
Significant difference between mean of pretest and posttest of knowledge was determined by using 't' test and chi-square test. All the analysis was carried out through SPSS version 21 software.

**Table 1 | Demographic characteristics of antenatal women (N=60)**

| Characteristics              | N  | %    |
|------------------------------|----|------|
| <b>Age in years</b>          |    |      |
| 21 – 25                      | 26 | 43.3 |
| 26 – 30                      | 18 | 30.0 |
| 31 – 35                      | 16 | 26.7 |
| <b>Occupation</b>            |    |      |
| Housewife                    | 49 | 81.7 |
| Self-employed                | 8  | 13.3 |
| Private Employee             | 1  | 01.7 |
| Government employee          | 2  | 03.3 |
| <b>Place of residence</b>    |    |      |
| Urban                        | 52 | 86.7 |
| Rural                        | 8  | 13.3 |
| <b>Family monthly income</b> |    |      |
| Rs.5,000 – 10,000            | 32 | 53.3 |
| Rs.10,000-20,000             | 22 | 36.7 |
| > Rs. 20000                  | 6  | 10.0 |
| <b>Place of residence</b>    |    |      |
| Hindu                        | 45 | 75.0 |
| Christian                    | 11 | 18.3 |
| Muslim                       | 4  | 06.7 |
| <b>Education Status</b>      |    |      |
| PUC level                    | 20 | 33.3 |
| Primary level                | 16 | 26.7 |
| Secondary level              | 8  | 13.3 |
| Graduate level               | 10 | 16.7 |
| Post graduate level          | 6  | 10.0 |



**Figure: 1 | Distribution of antenatal women by gravida.**



**Figure 2 | Distribution of antenatal women by type of family**

**Overall pre-test and post-test knowledge score of antenatal women (N=60)**

In pretest majority of antenatal women 57 (95%) were having inadequate knowledge and some of them 3 (5%) had moderate knowledge regarding prevention of SBS. However, following the video assisted teaching program, majority of antenatal women 47 (78.3%) had moderate knowledge, 4

(6.7%) had inadequate knowledge and 9 (15%) had adequate knowledge (Table 2).

The 't' value computed between mean pre-test and post-test of knowledge score is statistically significant (p<0.001). Results showed that the mean post-test knowledge score of women regarding prevention of SBS was significantly higher than the pre-test knowledge score (Table 3).

**Table 2** Knowledge score at pre-test and post- test of antenatal women (n=60)

| Level of Knowledge | Category     | Pre-test |    | Post-test |      |
|--------------------|--------------|----------|----|-----------|------|
|                    |              | N        | %  | N         | %    |
| Inadequate         | ≤ 50% Score  | 57       | 95 | 4         | 6.7  |
| Moderate           | 51-75% Score | 3        | 5  | 47        | 78.3 |
| Adequate           | > 75% Score  | 0        | 0  | 9         | 15.0 |

**Table 3** Level knowledge and test of significance at pre-test and post-test among antenatal women.

| Knowledge Score | Mean  | SD   | 't'-value | p-value |
|-----------------|-------|------|-----------|---------|
| Pre test        | 11.06 | 2.68 | 25        | <0.001  |
| Post test       | 19.98 | 1.19 |           |         |

Remarks: Significant

**Table 4** Association of level of knowledge with socio-demographic variables (N=60)

| Characteristics                   | Category            | Knowledge level |    | χ <sup>2</sup> | Inference |
|-----------------------------------|---------------------|-----------------|----|----------------|-----------|
| Age                               | 21-25               | 11              | 15 | 3.08           | NS        |
|                                   | 26-30               | 7               | 11 |                |           |
|                                   | 31-35               | 10              | 6  |                |           |
| Religion                          | Hindu               | 29              | 16 | 4.43           | S*        |
|                                   | Christian           | 5               | 10 |                |           |
| Education                         | Above Secondary     | 8               | 16 | 5.38           | S*        |
|                                   | Below Secondary     | 23              | 13 |                |           |
| Occupation                        | Housewife           | 22              | 27 | 0.335          | NS        |
|                                   | Employed            | 6               | 5  |                |           |
| Place of Residence                | Rural               | 33              | 19 | 2.78           | NS        |
|                                   | Urban               | 2               | 6  |                |           |
| Monthly Income (in Indian Rupees) | Rs. 5000-10000      | 13              | 19 | 3.956          | NS        |
|                                   | Rs. 10000- 20000    | 13              | 9  |                |           |
|                                   | More than Rs. 20000 | 1               | 5  |                |           |
| Gravida                           | Primigravida        | 14              | 21 | 6              | S*        |
|                                   | Multigravida        | 18              | 7  |                |           |
| Type of Family                    | Nuclear Family      | 26              | 8  | 14.6           | S*        |
|                                   | Joint family        | 7               | 19 |                |           |
| Previous Knowledge                | Yes                 | 4               | 1  | 4.15           | S*        |
|                                   | No                  | 14              | 41 |                |           |

\*At 0.05 level of significance, \*= significant, S=Not Significant

**Association between pretest knowledge score demographic variables.**

There is association between knowledge score and selected sociodemographic variables like religion, education, gravida, types of family and previous

knowledge about prevention of Shaken Baby Syndrome (SBS), but there is no association between knowledge score and selected sociodemographic variables like age, occupation, place of residence and monthly income.

## DISCUSSION

This study reveals that majority of the subjects 26 (43.3%) were between the age of 21-25 years (43.3%) and had PUC level qualification (33.3%). Majority of antenatal women (58.3%) subjects were primigravida and 25 (41.7%) were multigravida, and 34 (56.67%) subjects belonged to nuclear family. Most of the subjects 55 (91.67%) were not having knowledge regarding SBS while 5 (8.33%) had knowledge regarding SBS. A similar type of study, reported maximum 31.66% education of father and mother upto high school, 56.66% belonged from joint family, 48.33% of fathers had private job and 73.33% of mothers were home worker, 53.33% had income under less than Rs. 5000/month, 61.66% had no knowledge about risk of SBS, and 70% had source of knowledge on SBS through mass media (television) [7].

In pretest, majority of women 57 (95%) had poor knowledge and some of them 3 (5%) had good knowledge regarding prevention of SBS. However, following the video assisted teaching program majority of antenatal women 47 (78.3%) had moderate knowledge, 4 (6.7%) had inadequate knowledge and 9 (15%) had adequate knowledge. It was found that the antenatal women had adequate knowledge regarding prevention of shaken baby syndrome after exposed to video assisted teaching program. Similar results were found in study conducted by Pooja Rautela on effectiveness of video assisted teaching on knowledge regarding SBS among caregivers of infants in Pediatric ward at Shri Mahant Indires Hospital, Patel Nagar, Dehradun, where in the pre-test 88.33% sample score < 50% had inadequate knowledge and 11.67% had score between 51-75% had moderate knowledge, which shows majority of sample had inadequate level of knowledge.

In the post-test 80% sample score ranging between 76-100% had adequate knowledge, 20% with score between 51-75% had moderate knowledge and 0% of sample score < 50% had inadequate knowledge. Thus it clearly indicates that there was increase the level of knowledge after video assisted teaching program [8]. In another study conducted in India,

out of 60 subjects, overall knowledge score during pretest was average in 34 (63%) parents, followed by 23 (38%) poor and 3(5%) good. The mean for total knowledge score of the parents during pretest was  $11.7 \pm 3.46$  which was 40.80% of total score. The assessment of overall knowledge score during posttest was average in 53 (88%) of parents, followed by 7 (12%) and 0 (0%) poor [7], which is almost parallel to our study. The overall mean pretest score (11.06) and post-test score (19.98) were highly significant  $t(0.05, 59 \text{ df}=8.92)$ .

Also, the mean total knowledge score of the parents during posttest was  $19.2 \pm 1.38$  which is 73.63% of total score in other study is in agreement with our study [7]. It was found that the mean post-test knowledge score of antenatal women regarding SBS was higher than pretest knowledge score. The  $t_{59}$  value was found to be significant at 0.05 level of significance. The mean post-test knowledge score of antenatal women regarding prevention of SBS was significantly higher than the pretest. There was association between knowledge score and selected sociodemographic variables in religion, education, gravida, types of family and previous knowledge about SBS, however there was no association between knowledge score and selected socio-demographic variables like age, occupation, place of residence and income. Similarly, a study conducted by Shindey and Pandey in 2020 showed that, there was no significant association between pretest knowledge score and demographic variables like age of parents and children, gender, religion, father and mother occupation, family income [7]. Similarly, a study conducted by Pooja Rautela in 2018, revealed that there was significant association between the pretest and selected demographic variables like religion and type of family of caregivers of infants with the level of knowledge regarding SBS by using chi square test.

The study also showed that there was no significant association between pretest score of the caregivers relation to the age, educational status, occupation, family income and their source of information [8].

## CONCLUSIONS

The findings of the study revealed that post-test knowledge score was higher than pretest knowledge score regarding prevention of Shaken

Baby Syndrome among antenatal women. The study concluded that, the video assisted teaching program was an effective teaching strategy, to



enhance knowledge of antenatal women for prevention of shaken baby syndrome.

#### ADDITIONAL INFORMATION AND DECLARATIONS

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**Data Availability:** Data will be available upon request to corresponding authors after valid reason

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