

**Effectiveness of Video Assisted Teaching Module Regarding Monitoring Growth and Development of Knowledge Among Mothers of Under Five Children**

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**ABSTRACT**

A quasi – experimental study with pre and post-test without control group and experimental approach was undertaken in Magudanchawadi village, Salem from 14.9.09 to 27.9.09 data were collected from 106 mothers selected by purposive sampling technique through structured interview schedule to assess the effectiveness of VATM regarding monitoring growth and development of under five children. From the findings of the present study it can be concluded that, highest percentage (43.3%) of the mothers were belongs to the age group of 26-30 years and highest percentage (40.5%) of the mother had higher secondary education. Most (86.7%) of the mothers were house wife. Highest percentage (41.5%) of the mother was in the income group of Rs. 3001-5000. Majority (77.4%) of the mothers were from joint family. All the mothers (100%) were Hindus. Highest percentage (31.1%) of the mothers received information from through the friends and family members. Majority (74.5%) of them had only one under five children prior to implementation of VATM the mothers had average knowledge (40.7%) whereas after implementation of VATM the mothers had good knowledge.(72.8%) regarding monitoring growth and development of under five children and also the effectiveness of VATM was 32.1%.

Highly signification difference found between the pre and post-test Ks ( $p<0.01$ ) but no significant association was found between the post-test when compared with the demographic variables of school chilled ( $p<0.05$ ).

**KEY:** Underfive children, Mothers, Growth and Development, Growth Monitoring,

## INTRODUCTION

“Children are the wealth of tomorrow”

(Gupta, 2004)

Children are indeed the foundation of a nation. Healthy Children grow up to become healthy and strong adult who can actively participate in the developmental activities of the nation. (Singh. M., 2002)

Growth and development are closely related function in such a manner that a child matures progressively in all aspect of his personality. Physical mental, emotional and social aspect of his personality. (Dement. I, 2005)

Growth always comes with changes in body proportions, as part of the body develop in their own way. A baby’s look changes greatly in the baby hood years at birth babies are top heavy. Throughout the baby hood, their heads keep on growing but at a slower rate than the rest of the bodies. By the time, babyhood ends, babies are no longer, so top, heavy. (Elizabeth B.Hurlock, 2002)

Assessment of development constitutes one of the core components of child evaluation. This generally entails determining the extent to which behaviors are experiences are appropriate for an individual’s age and stage of development because developmental disorders are common and frequently associated with psychiatric and behavioral disorders. (Marlow .R, 2004)

## METHODOLOGY

### Research design and approach

A quasi experimental research design where, pre and post-test without control group approach was used to evaluate the effectiveness of video assisted teaching module for the present study.

### Representation of research design

$$O_1 \text{-----} X \text{-----} O_2$$
$$O_2 - O_1 = E$$

The symbols was used to explain the follows ;

O<sub>1</sub> : Knowledge of mothers regarding monitoring growth and development of underfive children through structured interview schedule before implementation of VATM.

X : Presentation of video assisted teaching module regarding monitoring growth and development of underfive children.

O<sub>2</sub> : Knowledge of mothers regarding monitoring growth and development of underfive children through structured interview schedule after implementation.

E : Effectiveness of video assisted teaching module.

## **Setting of the study**

The study was conducted in Magudanchavadi village, Salem.

## **Population**

The population for the present study was all the mother with underfive children who are residing in Magudanchavadi.

## **Sample and sampling technique**

### **Sample**

Mothers of underfive children who were residing in Magudanchavadi village, Salem was the samples for present study.

### **Sample size**

106 mothers with underfive children residing in Magudanchavadi, Salem.

### **Sampling technique**

Purposive sampling technique was used for selecting the sample for the present study.

### **Criteria for selection of sample**

Mothers who were;

- having children below 5 years of age.
- available during the data collection period.
- willing to participate in the study.
- able to understand and speak Tamil.

## **Methods of data collection**

### **Development of the tool**

The following tool was used for this study.

- Structured interview schedule.
- Video assisted teaching module regarding monitoring growth and development of underfive children.

### **Preparation of the VATM and Tool**

The steps was used for the preparation of the VATM

### **Review of literature**

Related books, journal, reports, articles, published and an unpublished research studies were used to develop the VATM

### **Construction of VATM**

The construction of VATM was based on the objectives, settings and conceptual frame work.

### **Organization of content**

1. Meaning of growth and development monitoring.
2. Patterns of growth and development.
3. Important parameters for growth and development monitoring.
4. Intervals of growth and development monitoring.

5. Health centers for growth and development monitoring.
  6. Effects of growth and developmental delay in later life
- Summary
  - Conclusion

## Preparation of the Tool

The steps was used for the preparation of the Tool

## Review of literature

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## Construction of Tool

The construction of Tool was based on the objectives, settings and conceptual frame work.

## Description of the tool

### 1. Structured interview schedule

It consist of two sections.

#### Section – A

It consist of demographic characteristics of sample such as age, educational status, occupation, family income per month, type of family, type of food, religion, previous source of information regarding growth and development monitoring, child age, sex, no. of underfive children.

#### Section – B

It consist of multiple choice knowledge items regarding monitoring growth and development. It includes meaning of growth and development, Importance of assessing growth and development, Factors affecting growth and development, Assessment of growth, Assessment of development, Monitoring growth and development

## Scoring procedure

The maximum score for the correct to each item was “one” and wrong response “zero”.

To assesses the level of knowledge score was classified based on the percentage of score

Level of knowledge	Percentage	Average Score
Very poor	< 20%	1 – 11
Poor	21 – 40%	12 – 23
Average	41 – 60%	24 – 35
Good	61 – 80%	36 – 47
Excellent	81 – 100%	48 – 57

## Consultation with guide and Committee

The tool was given to the guide and experts in research committee.

## Validity and Reliability of the tools

### Validity

The content validity of the tool and VATM was established in consultation with guide and experts from various field of three community health nursing, one preventive and Social medicine, two paediatric nursing, one biostatistician. The modification done as per recommendation of experts. After validation changes were made as follow.

Section	Q. No.	Changes made
B	40	Modification in Opinion

### Editing and translation of the tool

The tool was translated in to Tamil by experts and gain retranslated into English by another expert to determine correctness.

### Reliability

Reliability of the tool was tested by implementing the structure interview schedule on 10 mothers with underfive children at Veerapandi Village, Salem other than sample area.

Test and retest method was used where Karl Pearson's correlation formula were used to findout the reliability of the structured interview schedule ( $r = 0.8$ ).

### Preparation of the final draft of the tool

The final draft of the tool was prepared after testing the validity and reliability.

### Data collection procedure

Data were collected by the investigator through structured interview schedule.

### Permission from the concerned authority

Prior to collection of data written permission was obtained from the panchayat president of Magudanchavadi village. Then oral consent were taken from the mothers of underfive children who are residing in Magudanchavadi village, Salem.

### Period of data collection

The data was collected in the month of September, 2009. The investigator herself involved in both pre and post-test data collection and also implemented the VATM.

### Pre-test

Pre-test were conducted for 106 mothers residing in magudanchavadi, salem by using structured interview schedule from 14.09.2009 to 19.09.2009. Daily approximately 20-25 mothers were interviewed. Steps of interview was explained in annexure I.

## **Implementation of video assisted teaching module**

Immediately after pre-test, video assisted teaching module was presented to the mothers in groups. Time period was 25-30 mts.

### **Post-test**

Evaluation of the VATM was done by conducting post-test after 7 days. Post-test was conducted by using the same structured interview schedule and for the same mothers wither underfive children who were present during pre-test and presentation of VATM. The similar steps of Interview was used during post-test also the data collection was 27.09.2009 to 01.10.2009.

### **Planned analysis**

Descriptive and inferential statistics were used for data analysis. The collected data was organized and tabulated by using descriptive statistics ie. percentage, mean, SD. Inferential statistics like chi-square test, paired “t” test. The paired ‘t’ test was used to findout the difference between pre and post-test knowledge score. The chi-square test was used to test the association between demographic variables of mothers with underfive children with their post-test knowledge scores. The data was presented in the form of tables and figures in chapter IV.

## **RESULT**

### **Section-1**

#### **Description of the demographic characteristics of mothers with children.**

Highest percentage (43.3%) of the mothers were in the age group of 26-30 year and more or less similar percentage (5.7 % & 3.8%) of them were in the group of < 20yrs and > 35yrs. (fig. no .4.1.1) It is supported by the findings of Tara gopaldas (2004), who reported that most (82.4%) of mothers were in the age group of 25 – 30 years.

Highest percentage (40.5%) of the mothers had higher secondary education and only 2.8% of them not had formal education (Fig No : 4.1.2) It’s supported by the finding of Paul . S Christian (2004), conducted a study on “Growth monitoring work as is ought to an countries low literacy in India” and concluded that the highest (47.3%) percentage of the mother had high school education.

Most (86.7%) percentage of the mothers were housewife whereas lowest (1.9% and 0.9%) percentage of them were government and private employees (Fig.No:4.1.3) It is supported by Martinez. H (2003), conducted a study on “mothers knowledge, understanding use of growth chart in rural area of central Mexico” who reported that all most all (97%) of the mothers were house wife.

Highest (41.5%) percentage of the mothers were in the income group of Rs. 3001 – 5000 and lowest percentage (2.8% and 3.8%) of them were in the age group of Rs.7001 – 9000 and > Rs 9000 (Fig no 4.1.4) which is supported by Ethirajan .S (2005), who have observed that most of mothers under the study were from low income group

Majority (77.4%) percentage of the mothers were from nuclear family and lowest percentage (22.6%) of the mothers were from joint family (Fig. No :4.1.5) It is supported by Park .K (2007),who reported that price for education, urbanization and industrialization we are losing the joint family system. All (100%) of the mothers were from Hindu religion (Fig. No. 4.1.6) which is supported by Pawl S. Christian (2004), in their study majority, (86.5%) of mothers were Hindus.

Highest (31.1%) percentage of mothers were received information from friends and family members and lowest (10.3%) percentage of the mother not getting information from anywhere (Fig. No. 4.1.7) which is supported by Sasi .V (2005) who observed that the 42.3% of them received information from family members.

Majority (74.5%) of the mothers had only one under five children and lowest (25.5%) percentage of the mothers had two under five children (fig. No. 4.1.8), It is supported by the findings of Rita. D (2004), conducted study on “mothers knowledge regarding growth monitoring in rural Tamilnadu, India. who reported in this study the highest (38.9%) percentage of the mothers had 3 children.

## **Section 2**

Assessment of knowledge of mothers regarding monitoring growth and development of under five children prior to the implementation of VATM.

**Table No. 4.2.1 : Area wise distribution of mean, so and mean% of pre-test KS of mothers regarding monitoring growth and development of under five children.**

S. No	Area	Scores			
		Max. Scores	Mean	SD	Mean %
1	Meaning of growth and development	2	1.02	0.43	50.9
2.	Weight for age	4	1.95	0.59	48.8
3.	Height for age	3	1.08	0.67	36.1
4.	Teeth eruption	3	1.11	0.59	37.1
5.	Fontanelle closer age	2	0.74	0.35	36.8
6.	Gross motor development	11	4.05	0.93	36.7
7.	Fine motor development	7	2.88	0.74	41.1
8.	Sensory development	4	1.70	0.69	42.5
9.	Social development	5	2.01	0.50	40.6
10.	Language development	5	1.93	0.65	38.6
11.	Factors affecting growth and development	3	1.26	0.72	42.1
12.	Monitoring growth and development	8	3.44	0.84	43
	<b>Overall</b>	<b>57</b>	<b>23.21</b>	<b>2.34</b>	<b>40.7</b>

Area wise distribution of mean, SD and mean% of pre-test Ks of mothers regarding monitoring growth and development of under five children shows that during pre-test the highest mean score ( $1.02 \pm 0.43$ ) which is 50.9% of the maximum score was obtained in the area of meaning of growth and development, which revealing average knowledge whereas the mean is  $1.95 \pm 0.58$  which is 48.8% of the maximum score obtained in the area of “weight for age”. Further similar mean score ( $1.70 \pm 0.69$ ,  $1.26 \pm 0.72$  &  $3.44 \pm 0.84$  ) which is around 43% of maximum score was obtained in the area of “Sensory development”, “Factors affecting growth and development”, “Monitoring growth and development respectively, which revealing average knowledge. However, more or less similar mean score ( $2.88 \pm 0.74$ ,  $2.03 \pm 0.50$  &  $1.93 \pm 0.65$ ) which is



41.1% , 40.6% of the maximum score was obtained in the area of “Fine motor development”, Social development” and “Language development”, revealing average knowledge whereas similar the mean score ( $1.13 \pm 0.59$ ,  $1.08 \pm 0.67$  &  $0.74 \pm 0.35$ ) which is 37% of the maximum score was obtained in the area of “Teeth eruption”, “Fontanelle”, “Height” and “Gross motor development” respectively which revealing poor knowledge.

Further, the over all mean score was  $23.2 \pm 2.33$  which is 40.7% of the total mean score reveals that the mother with under five children had average knowledge regarding monitoring growth and development of under five children. (Tab. 4.2.1.)

**(a) Area wise comparison of mean, SD, Mean, of pre and post-test Ks of the mothers monitoring growth and development of under five children.**

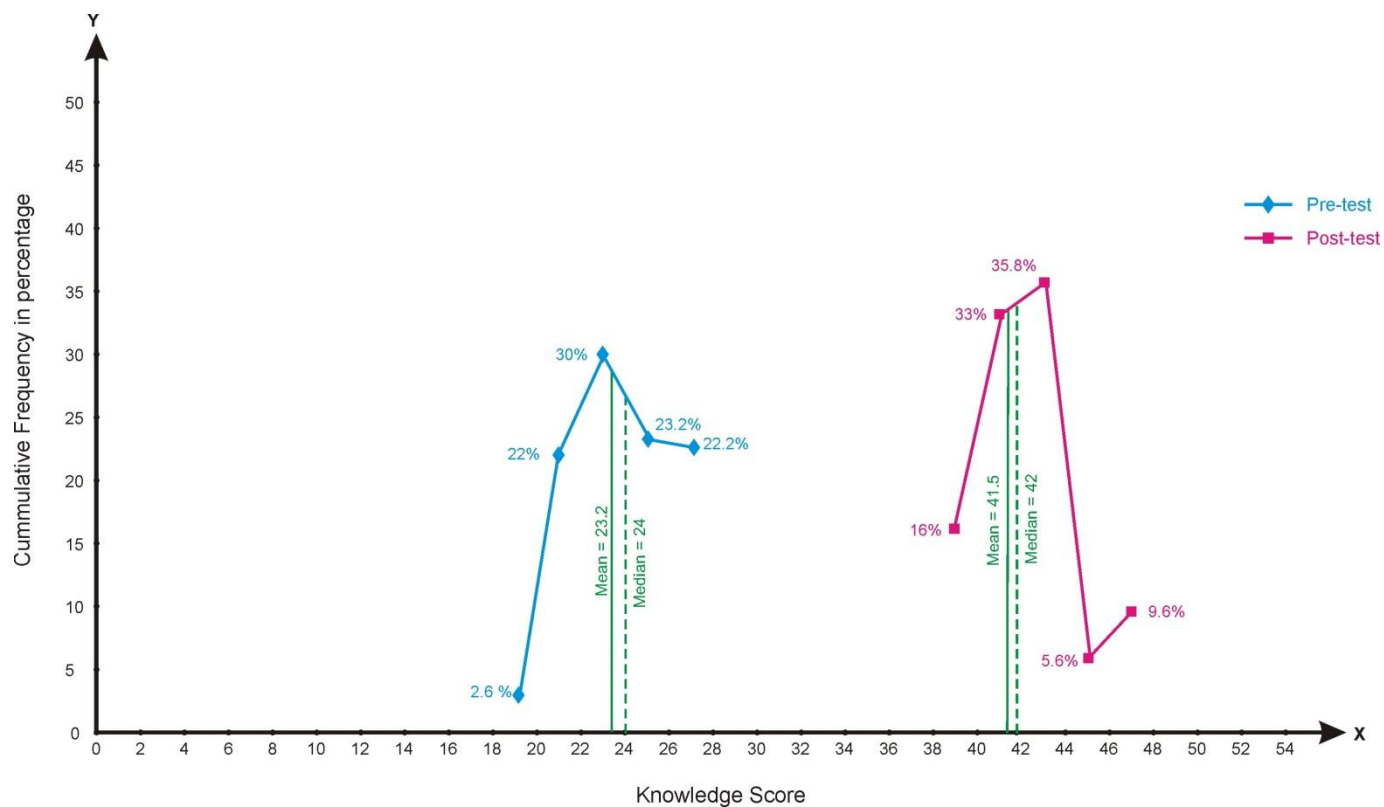
**Tab. No. 4.3.1. : Area wise comparison of mean, SD, mean, of pre and post-test Ks of the mother with underfive children regarding monitoring growth and development of under five children**

S. No	Area	Max Score	Pre-test			Post-test			Difference s in Mean%
			Mean	SD	Mean %	Mean	SD	Mean%	
1	Meaning of growth and development	2	1.02	0.43	50.9	1.71	0.51	85.3	34.4
2	Weight for age	4	1.95	0.59	48.8	3.33	0.61	83.2	34.4
3	Height for age	3	1.08	0.67	36.1	2.32	0.58	77.3	41.2
4	Teeth eruption	3	1.11	0.58	37.1	2.34	2.64	77.9	40.8
5	Fontanelle closer age	2	0.74	0.35	36.8	1.59	0.50	79.7	42.9
6	Gross motor development	11	4.05	0.93	36.7	6.79	0.85	61.7	24.8
7	Fine motor Development	7	2.88	0.74	41.1	4.87	0.71	69.5	20.4
8	Sensory development	4	1.69	0.69	42.5	2.92	0.48	73.1	20.6
9	Social development	5	2.04	0.50	40.0	3.53	0.54	70.5	30.5

10	Language development	5	1.93	0.65	38.6	3.50	0.45	70	31.4
11	Factors Affecting growth and development	3	1.20	0.72	42.1	2.39	0.52 4	79.5	37.4
12	Monitoring growth and development	8	3.45	0.84	43.0	6.28	0.62 6	78.5	35.5
	<b>Overall</b>		<b>23.2</b>	<b>2.34</b>	<b>40.7</b>	<b>41.5 2</b>	<b>2.04 3</b>	<b>72.8</b>	<b>32.1</b>

Area wise comparison of Mean, SD, mean% of pre and post-test KS of regarding monitoring growth and development of under five children shows that during post-test the highest mean score ( $1.70 \pm 0.51$ ) which is 85.3% of total score was obtained in the area of “Meaning of growth and development” and shows 34.4% effectiveness which was also highest percentage (50.9%) during pre-test. However, the Lowest mean score ( $6.79 \pm 0.85$ ) which is 61.7% was obtained in the area of “Gross motor development” and the effectiveness was 24.8%. Further the effectiveness varies from 20.4% to 42.9%.

The overall post-test mean score was  $41.52 \pm 2.04$  which is 72.8% of the total mean score whereas during the pre-test the mean score was  $23.2 \pm 2.34$  and the effectiveness was 32.1%. However, highest percentage (42.9%) of the effectiveness was in the area of “Fontanalle closer age” which might be due to the sample size and lowest percentage (20.4%) of the effectiveness was in the area of “Gross Motor Development”. It reveals that the VATM was effective on various area of monitoring growth and development of underfive children. (Tab: No : 4.3.1)

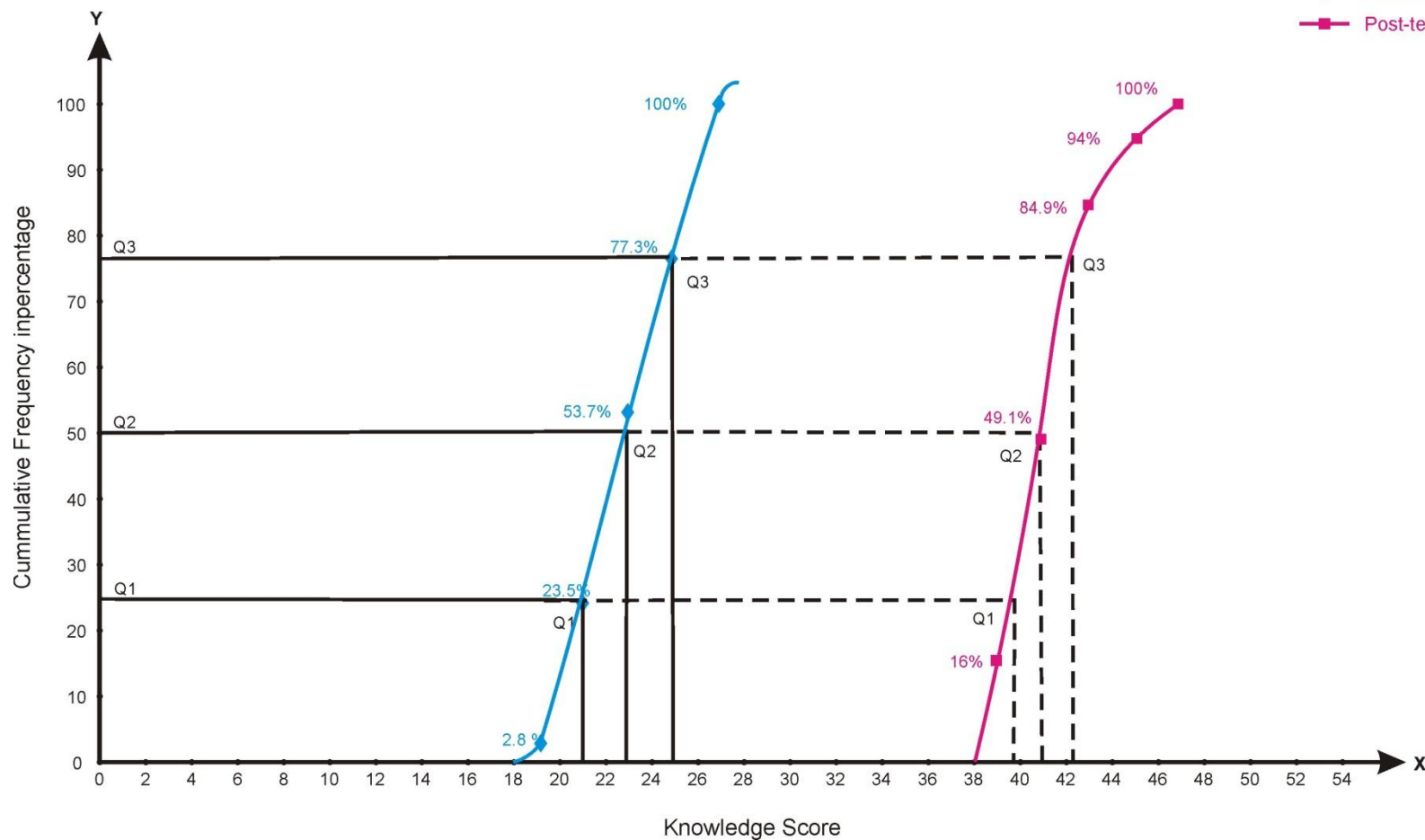


**Fig. No. 4.3.1. : Line graph showing the comparison of pre and post-test KS of the mother with underfive children regarding monitoring growth and development of underfive children.**

Line graph was drawn to compare the pre and post-test knowledge score to assess the effectiveness of VATM shows that highest pre-test score was between 22-24 which was obtained by 30% of mothers whereas during post-test the highest mean score was between 42-44 obtained by 35.8% of mothers and lowest pre-test score values were between 18-20 obtained by 2.6% of mothers whereas in post-test the lowest mean score was between 44-46 obtained by 5.6% of mothers which is higher than the highest pre-test score values.

Further the mean and median plotted the pre and post-test score shows that during pre-test mean and median values were 23.21 and 24 whereas, during post-test median values were 41.5 and 42 respectively. It reveals the difference approximately 12 scores.

Hence it can be interpreted that the VATM was effective in improving the knowledge of mothers regarding monitoring growth and developments of under five children. (Fig. No. 4.2)



**Fig. No. 4.3.2. : O-give curve showing the association difference between pre and post-test KS of the mother with underfive children regarding monitoring growth and development of underfive children.**

## Section 3

To assess the effectiveness of VATM on knowledge of mothers on various aspects of monitoring growth and development of the under five children, hypotheses testing were done by using paired 't' test and chi-square test.

H<sub>01</sub>: There is no significant difference between pre-test and post-test KS of the mothers regarding monitoring growth and development of under five children.

**Tab. No. 4.5.1 : Paired 't' value of pre-test and post-test KS of mothers regarding monitoring growth and development of under five children.**

S. No.	Area	't' value	Level of Significance
1	Meaning of growth and development	13.23	Highly Significant
2	Weight	18.11	Highly Significant
3	Height	18.16	Highly Significant
4	Teeth eruption	20.09	Highly Significant
5	Fontanelle	16.22	Highly Significant
6	Gross Motor development	31.55	Highly Significant
7	Fine Motor development	25.18	Highly Significant
8	Sensory development	20.70	Highly Significant
9	Social development	20.69	Highly Significant
10	Language development	23.34	Highly Significant
11	Factors affecting growth and development	18.34	Highly Significant
12	Monitoring growth and development	71.35	Highly Significant
	<b>Overall</b>	<b>71.35</b>	<b>Highly Significant</b>

(df=105), (Table value -1.98), (P<0.01, Highly Significant)

Paired 't' test was calculated to analyze the difference in pre-test and post-test KS on different aspects of monitoring growth and development of under five children (Meaning, Weight, Height, Teeth eruption, Fontanelle, Gross Motor development, Fine motor, sensory, social, language development factors affecting growth and development, monitoring growth and development) shows that highly significant difference between the area wise score value of pre-test and post-test. Hence the stated null hypothesis rejected and statistical hypothesis

was accepted ( $P < 0.01$ ). Thus the difference observed in the mean score values of pre-test and post-test were true difference.

$H_{02}$  : There is no significant association between post-test KS and selected demographic variable of the mothers regarding monitoring growth and development of under five children.

**Tab. No. 4.5.2 : Association between the post-test KS and demographic variables of mothers with under five children.**

S. No.	Variables	Calculated $\chi^2$ value	Level of Significance
1	Age	0.039	Not Significant
2	Education	0.49	Not Significant
3	Occupation	0.005	Not Significant
4	Family monthly income	0.053	Not Significant
5	Family type	1.399	Not Significant
6	Previous information	0.447	Not Significant
7	No. of child	1.378	Not Significant

(df=1), (Table value 3.84) ( $P < 0.05$ , Not Significant)

Chi square was calculated to find out the association between the post-test KS and the demographic variables of the mothers with under five children. There was no significant association between KS of mothers in post-test when compared with age, education, occupation, monthly income, family type, previous source of information, number of children.

Hence it can be interpreted that the difference in mean score related to the all demographic variables were only by chance and null hypothesis was accepted.

## DISCUSSION

A quasi experimental design was used to assess the effectiveness of VATM regarding monitoring growth and development of underfive among mothers of underfive children in magudanchavadi village from 14.9.09 to 27.9.09.

The funding are summarized as follows.

- The highest (43.3%) percentage mothers were in the age group of 26-30 yrs.
- Highest (40.5%) percentage of mother had higher secondary education.
- Most (86.5%) of the mother were housewife.
- Highest (41.5%) percentage of the mother were from the income group of Rs. 3001 – 5000.
- Majority (77.4%) of mother from nuclear family.
- All (100%) of the mothers from Hindu religion.
- Highest (31.1%) percentage of mothers received information from friends and family members.
- Majority (74.5%) of the mother had only one under five children.
- Overall pre-test mean score was  $23.2 \pm 2.3$  which is 40.7% of the total mean score reveals that the mothers understudy had average knowledge on monitoring growth and development of under five children.
- During post-test mean score was  $41.5 \pm 2.04$  which 72.8% of the total mean score depicting difference of 32.1% increase in mean percentage of score revealing the of effectiveness of VATM.
- Area wise post-test mean score were above 61% of the total score in all the areas reveals good knowledge.
- Line graph shows that during pre-test mean and median values were 23.2 and 24 whereas during post-test it was 41.5 & 42 respectively revealing a difference 18.3 and 8 showing effectiveness of VATM.
- O-give curve of the post-test lies to the right of pretest revealing post scores were higher than pre-test scores.
- Effectiveness of VATM similar (73%) percentage of mothers in the age group of 26 – 30years > 35 yrs respectively.
- Similar percentage (73%) of the effectiveness lowest observed for those who had higher secondary education and graduates and above respectively.
- Highest percentage (82.4%) of the effectiveness was obtained by the private employees.
- Similar percentage (73%) of the effectiveness was for the mothers from the income group of Rs. 5001 – 7000 and Rs. 7001 – 9000 respectively.
- Highest percentage (75.6%) of effectiveness was obtained by the nuclear family mothers.
- Highest percentage (72.8%) of the effectiveness was found for the mothers from Hindu religion.
- Similar (75%) percentage of the effectiveness was the mothers who get information from the health professionals and printed materials respectively.



- Highest (73.9%) percentage of the effectiveness was obtained by mothers who had only one under five children.
- Highly significant difference was found between pre and post-test knowledge score ( $p < 0.01$ ).
- No significant association was found between the post-test knowledge score when compared to the age education occupation, monthly income, type of family, religion, previous source of information, no.of under five child ( $p < 0.05$ ).

## CONCLUSION

From the findings of the present study it can be concluded that, highest percentage (43.3%) of the mothers were belongs to the age group of 26-30 years and highest percentage (40.5%) of the mother had higher secondary education. Most (86.7%) of the mothers were house wife. Highest percentage (41.5%) of the mother was in the income group of Rs. 3001-5000. Majority (77.4%) of the mothers were from joint family. All the mothers (100%) were Hindus. Highest percentage (31.1%) of the mothers received information from through the friends and family members. Majority (74.5%) of them had only one under five children prior to implementation of VATM the mothers had average knowledge (40.7%) whereas after implementation of VATM the mothers had good knowledge (72.8%) regarding monitoring growth and development of under five children and also the effectiveness of VATM was 32.1%.

Highly signification difference found between the pre and post-test Ks ( $p < 0.01$ ) but no significant association was found between the post-test when compared with the demographic variables of school chilled ( $p < 0.05$ ).

## ABBREVIATIONS

KS	- Knowledge Score
VATM	- Video Assisted Teaching Module
SD	- Standard Deviation
DF	- Degree of Freedom

## BIBLIOGRAPHY

- Adele Pitteriri (2005), "Maternal and child health nursing", 3<sup>rd</sup> edition, Jone bartlet publishers, Pp. 236-248.
- Al. Naahedh (2003), "Perception and uses of the growth chart among mothers of underfive children", Indian journal of community medicine, Vol.9, Pp.5-6.

- Ali Rabbani et.al (2009), “Role of health management in Evaluation of programs in monitoring growth of children aged 0-5 yrs”, *Pakistan journal of nutrition*”, Vol. 8, Pp. 829-834.
- Balgir et.al (2001), “Physical growth and nutritional status of ashram school tribal children in North Orissa”, *Indian journal of nutrition and diatetics*”, Vol. 36, Pp. 440-443.
- Behraman .E.R, Kliegma M.R. (2005), ”Essentials of pediatric”, 4<sup>th</sup> edition, Saunders company, Pp. 622-627.
- Bolton Patrick (2001), “Developmental assessment”, *Advances in psychiatric treatment*, Vol.7, Pp. 32-42.