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RESEARCH ARTICLE

A STUDY TO EVALUATE THE EFFECTIVENESS OF VIDEO ASSISTED TEACHING PROGRAMME ON KNOWLEDGE REGARDING AUTISM AMONG PRIMARY SCHOOL TEACHERS IN SELECTED SCHOOLS AT COMMUNITY, BENGALURU

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Abstract

Children of today are the citizens of tomorrow so they need to be cared by parents and teachers. As a teacher may come across many children so easily, they can find normal and abnormal behavior of a child. Autism is a psychoneurotic disorder characterized by impaired social interaction, communication and by restricted and repetitive behavior. Teachers can find this behavior in school and timely measures can be taken. In order to educate and encourage the teachers, to improve their knowledge regarding autism, the study was conducted to evaluate the Effectiveness of video assisted Teaching Program regarding autism on knowledge of primary school teachers working in selected schools at community, Bengaluru. Pre-experimental design, with convenient sampling method was used. Information was collected from 50 primary school teachers regarding autism in the structured knowledge questionnaire. VATP was implemented and post-test was conducted after 7 days to find the effectiveness. Regarding effectiveness of STP, the overall mean knowledge score in the pre-test was 38.1% and 79.52% in the post test with enhancement of 41.42% and it was significant at 5% level. Analysis of socio-demographic variables showed significant association between religion, professional qualification, source of information on autism, teaching experience in years with knowledge score at 5% level ($P > 0.05$). Overall findings showed that pre-test knowledge scores were found to be 38.1% and after STP, knowledge of primary school teachers was enhanced by 41.42% regarding autism. Hence the result has proved that VATP was effective in improving the knowledge of primary school teachers on autism.

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Introduction:-

Children are the most important asset and wealth of a nation. When the child grows and develops into an adult stage, along with the physiological development, the child's mental capabilities also need to be developed. During this process of growth and development child may suffer from many psychological and behavioral problems. Children are at school for a large part of their vital

time for the emotional and physical development. School provides a setting for the development of friendships, socialization and for the introduction and reinforcement of behavior. So, it is important for teachers to know about the child's behavioral problems during their school life. The teacher should be properly trained to meet the needs of the students with autism.

1. autism spectrum disorder (ASD)
2. Asperger's syndrome.
3. Childhood disintegrative disorder.
4. Pervasive developmental disorder - not otherwise specified.

Autism is a neurological disorder (a "brain" disease) characterized by the presence of severe communication, language and social deficits in affected persons. It is the most well-known of several pervasive developmental disorder (PDD) diagnoses which begin in early childhood and continue throughout life, affecting most every aspect of life along the way. While autistic people's cognitive (thinking and language) and social skills are typically developmentally delayed compared to their peers, their motor (movement) skills develop in a more normal fashion. Autism is a developmental disorder that appears in the first 3 years of life, and affects the brain's normal development of social and communication skills. Autism is a physical condition linked to abnormal biology and chemistry in the brain. The exact causes of these abnormalities remain unknown, but this is a very active area of research. Similarly, language abnormalities are more common in relatives of autistic children. Chromosomal abnormalities and other nervous system (neurological) problems are also more common in families with autism.

Children are at school for a large part of their vital time for the emotional and physical development. School provides a setting for the development of friendships, socialization and for the introduction and reinforcement of behavior. Change of behavior in the desired direction is termed as learning. On first sight of a child with autism it would be very unlikely that you would tell them apart from any other child. There are no obvious visual clues, which is why so many children are mistaken for being naughty or rude. The education depends on the individual child thus level of general intelligence and their level of language and behavior. School is a challenging environment because it places the child in a setting outside the home where communication and socialization areas are a significant challenge for children with autism. Children with an autism spectrum disorder (ASD) can find school difficult for a number of reasons, generally related to difficulties with communication, social skills and sensory sensitivity. However, there are plenty of teachers, support staff and other pupils who can do to help.

Primary education supports children at a critical time in their physical, emotional, social and intellectual growth. More broadly, education is a key tool for development, and an invaluable means of addressing structural inequality and disadvantage. Primary education provides children with life skills that will enable them to prosper later in life. It equips children with the skills to maintain a healthy and productive existence, to grow into resourceful and socially active adults, and to make cultural and political contributions to their communities. Education also transmits more abstract qualities such as critical thinking skills, healthy living, resilience, and self-confidence. An educated adult population is vital for strong economic development. It also lays the foundations for greater overall economic productivity, and the full use of new technologies for development.

It has been more than 50 years since Leo Kanner first described his classic autistic syndrome. The incidence of autism spectrum disorders (ASD) has increased steadily over the past decade; the incidence of autism spectrum disorders is estimated to be 1-2%. A systemic review of 40 studies revealed that the prevalence of ASD was 20 per 10,000. The incidence of autism is more in males. Latest estimates indicate that the prevalence of autism spectrum disorders could be as high as 1 in 54 boys. There is strong evidence to suggest that the increase in diagnosis and identifying children with these disorders is due to greater awareness, significant changes in the criteria and improved diagnostic tools. The overall prevalence of ASD among children born between 1983 and 1999 and diagnosed by age 8 increased by 11.9% per annum, from 8 cases per 10,000 births in 1983 to 46 cases per 10,000 births in 1999. Between 1991 and 1997 there was a staggering 556% reported increase in paediatric prevalence of Autism with a male to female ratio of 3:1. The purpose of this study therefore is to assess the knowledge and awareness of autism spectrum disorders among primary school teachers and to correlate their knowledge with variables such as prior training and teaching experience. Teachers were ranked based on their knowledge and a score of above 8/12 was deemed as good knowledge of ASD. The symptoms and signs listed in the questionnaire were adopted from two diagnostic instruments used for autism, namely the Autism Diagnostic Interview Revised (ADI-R) and the Childhood Autism Rating Scale (CARS).

Need of Study

Now a day's prevalence of autistic disorder is grown dramatically. There has been a staggering sixfold rise in the number of autisms in the country. Studies in Asia, Europe, and North America have identified individuals with autistic

disorder with an average of 1%. Approximately 6.7 million people affected by autism around worldwide; in USA one in every 66 children, in China 1 in every 1000 children. The latest global figures suggest that 1 in 500 people affected with autism in India. Autistic disorders affect approximately 1 to 2% of the school age population. Teachers and other school personnel must be familiar with current best practices for identifying and treating children with autistic spectrum disorder. However, many do not have formal training in educating and intervening with this group of children. Although a review of the literature suggests that school personnel are receiving some specialized training related to autism, there continues to be a pressing need for more continuing education opportunities and improved preparation. Prior to the 2009 revision, the autism prevalence rate was at one in 150 children. This represents a significant jump in autism spectrum disorder diagnoses in the four years that passed between the 2002 study results and the 2006 study results. There are many ways to promote autism awareness with the first step being an accurate look at how autism affects children in the United States. Cumulative incidence and prevalence were 16.2 per 10,000 and 21.1 per 10,000, respectively. Children with high-functioning autism who had IQs of 70 and over constituted approximately half of all the children with childhood autism. Autism diagnoses are much more common in males than in females. According to the 2006 study results, one in 70 boys in the nation have an autism diagnosis while only one in 315 girls are on the autism spectrum. Despite the myth that autism equals an intellectual disability, only 41% of children on the autism spectrum actually present with cognitive deficits.

Hypothesis

H1: The mean post-test knowledge scores of primary school teachers regarding autism will be significantly higher than their mean pre-test knowledge scores.

H2: There will be a significant association between post-test levels of knowledge of primary school teachers regarding autism and their selected socio-demographic variables

The present study aims at developing and evaluating Video Assisted Teaching Program on autism among primary school teachers working in selected primary schools. Review of literature of related studies enabled the investigator to collect related and relevant information to support the study, design the methodology, to develop the conceptual framework and in the development of tool.

Findings

Findings related to demographic characteristics of the subjects:

1. Based on the age majority (48 %) of the respondents belongs to the Age group of 21-30 years.
2. Majority 88% of respondents are females.
3. Majority 88% of the respondents are Hindus.
4. Majority 62% of respondent's professional qualification is TCH/D.Ed.

Findings related to knowledge on autism among primary school teachers:

1. The overall pre-test mean knowledge was found to be 38.1% with standard deviation of 2.88. The aspect wise pre-test knowledge of respondents regarding autism. The highest mean % was seen in the aspect of identification of autism 50.4 % followed by general information of autism 41.42%, management of autism with 36.30 % and the lowest mean % was seen in the aspect of symptoms and complications of autism with mean % of 33.38 %.
2. The overall pre-test mean knowledge score was 38.1% and post-test value was 79.52% with enhancement of 41.42%. Paired t-test shows statistical significance at 5% level ($p < 0.05$) establishing the impact of video assisted Teaching Program on autism among primary school teachers.

Findings related to association between Socio-demographic variables and Post-test knowledge scores:

1. The association between post-test knowledge score and socio-demographic variables computed by using chi-square test.
2. There was significant association between religion, professional qualification, source of information on autism, teaching experience in years and knowledge scores.
3. However, there was no significant association between socio-demographic variables such as age in years, gender, religion and personal qualification.

Methodology:-

Research methodology involves the systematic procedure by the researcher which starts from the initial identification of problem to its final conclusion. The methodology of research indicates the general pattern of gathering valid and reliable data and organizing the data for the purpose of investigation.²⁶ The approach to research is the umbrella that covers the basic procedure for conducting research. A research approach tells the researcher what data to collect and how to analyse

it. It also suggests possible conclusions to be drawn from the data. In view of the nature of the problem under study and objectives of the study, evaluative approach was considered appropriate to assess the knowledge of primary school teachers regarding autism. The research design is the plan, structure and strategy of investigation for answering the research questions, it is the overall plan or blueprint that the researcher selects to carry out the study. The research design incorporates some of the most important methodological decisions that the researcher makes. The research design helps the researcher in selection of subjects; manipulation of experimental variables, control of extraneous variables, procedure for data collection and type of statistical analysis to be used to interpret the data. The research design selected for the present study is pre-experimental with one group pre-test post-test design.

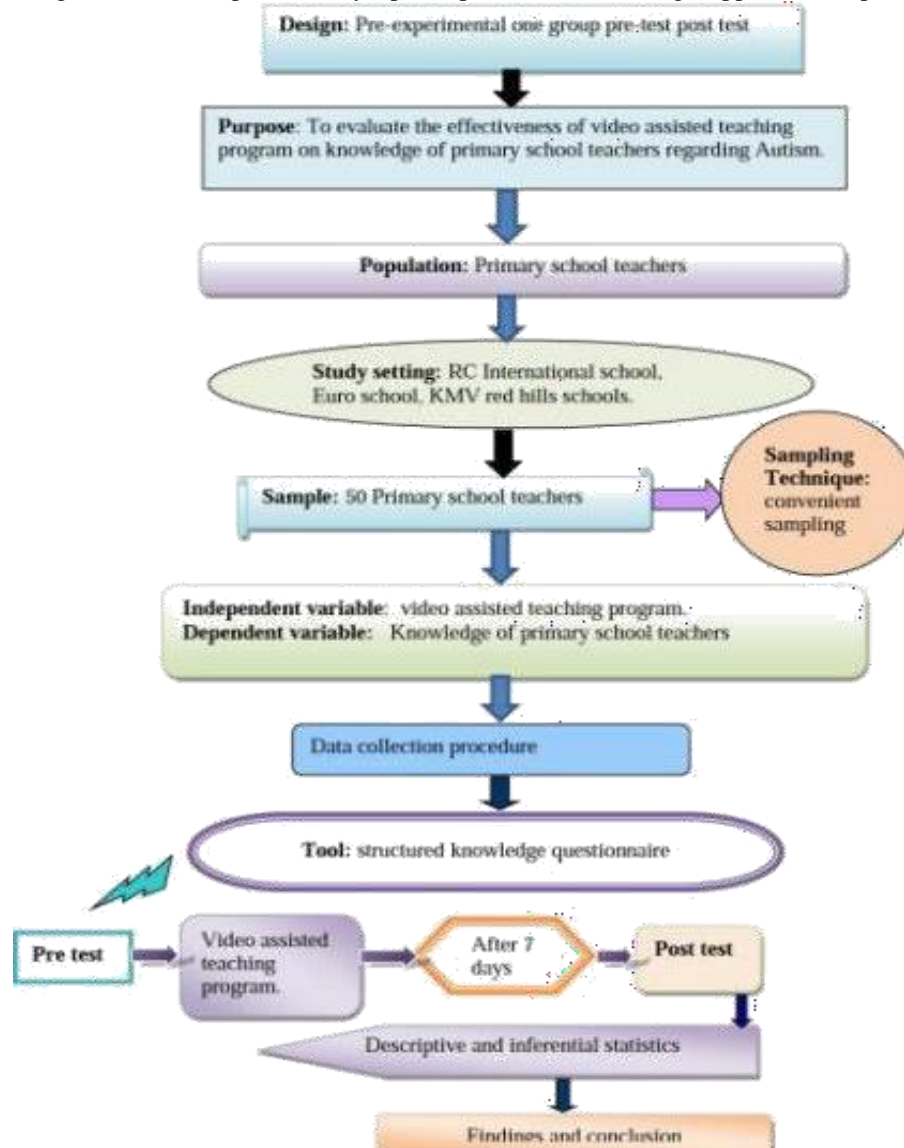


Figure 1:- Schematic representation of research plan

Target Population

Population is a group whose members possess specific attributes that a researcher is interested to study. Target population in the present study was primary school teachers working in selected primary schools at community, Bengaluru.

Setting of the Study

“Setting” refers to the area where the study is conducted. It is the physical location and condition in which data collection takes place in a study. This study was conducted in RC International School, Euro School, and KMV red hill school. The criteria for selection of the setting are the availability of subjects, feasibility of conducting the study.

Sample and Sampling Technique

Sample refers to a subset of population, selected to participate in the research study. Sampling refers to the process of selecting a portion of population to represent the entire population. The sample of this study comprised of 50 primary school teachers working in RC International School, Euro School, and KMV red hills school. Convenient sampling method was used to draw the sample. Convenient sampling is in which subjects are selected because of their convenient accessibility and proximity to the researcher.

Criteria for Selection of Sample

Inclusion criteria:

1. Teachers who are working in selected primary schools.
2. Teachers who are willing to participate in the study.
3. Teachers with minimum qualification of D.Ed.

Exclusion Criteria:

1. Teachers who are absent at the time of data collection

Selection and Development of Tool

To meet the objectives of the study the tool was developed by the investigator. The tool used for the study comprised of a structured knowledge questionnaire and video regarding autism.

Selection of the Tool

A structured knowledge questionnaire used to assess the knowledge of primary school teachers at community, regarding Autism.

Description of the Tool

In the present study the following tool were used.

Part-I: Consisted of 4 items related to socio demographic data of the subjects such as age in years, gender, religion, personal qualification.

Part-II: Structured knowledge questionnaire consisted of 10 items on knowledge regarding autism. Each item of the schedule has one correct answer and three wrong answers, every correct answer would fetch one mark and wrong answer fetch zero mark and the total score of the knowledge questionnaire is 10.

Scoring of items

For knowledge question each correct answer was given a score of 'one' and for wrong answer a score of 'zero.'

Content Validity

Content validity of the tool was established by obtaining suggestions from 07 subject experts who comprised of 07 educators in the field of psychiatric nursing.

Reliability

The tool, after validation was subjected to test for its reliability. The structured knowledge questionnaire was administered to 5 samples. The reliability of the tool is computed by using split half Karl Pearson's correlation formula (raw score method). The reliability of Split Half test was found by using Karl Pearson correlation by deviation method. Spearman Brown's Prophecy formula was used to find out the reliability of the full test.

$$R = \frac{2r}{1+r}$$

R — reliability co-efficient of correlation of whole test —
reliability co-efficient of correlation of half test

The reliability co-efficient of structured knowledge questionnaire was found to be 0.894 and validity co-efficient worked to be 0.944 for knowledge questionnaire, revealing that the tool is feasible for administration for the main study. Since the Knowledge reliability co-efficient for the scale $r > 0.70$. The tool was found to be reliable and feasible.

4. Development of Video Assisted Teaching Program (VATP):

Video Assisted Teaching Program on knowledge regarding autism was developed based on Review of Literature and consulting with experts. The steps adopted in the development of Video Assisted Teaching Program were:

1. Preparation of first draft of Video Assisted Teaching Program
2. Development of criteria checklist to evaluate the Video Assisted Teaching Program
3. Content validity of Video Assisted Teaching Program
4. Editing of Video Assisted Teaching Program
5. Preparation of final draft of Video Assisted Teaching Program

Development of Criteria Checklist to evaluate the Video Assisted Teaching Program

1. Identification and Stating of Objectives in Behavioral Terms: The teaching objectives were identified and written in behavioral terms depending on the needs of the learner i.e., autism.
2. Selection of the Content: The content of autism was selected through literature search and in consultation with the subject experts and their suggestions and opinions. Then content was analyzed into subtopics and subtopics were broken down into elements.

Content Validity of the VATP

The initial draft of Video Assisted Teaching Program was given to 07 experts in the field along with the tool. To assess the content validity of Video Assisted Teaching Program a criteria checklist was used, which consisted of criteria for two areas. Against each criterion four responses were given and a column was provided for their remarks. The suggestions were incorporated in the Video Assisted Teaching Program. (Annexure J)

Planning to Implement the VATP:

The time and date were decided to implement the Video Assisted Teaching Program.

Preparation of Final Draft of VATP:

The draft of Video Assisted Teaching Program consisted of introduction, content and summary.

The illustration was presented in Video Assisted Teaching Program along with the videos on autism.

Pilot Study

A pilot study was conducted from 25.06.2023 to 02.07.2023 at RC International School, Bengaluru. Administrative approval was obtained from the principal to conduct the pilot study. The purposes of the pilot study were to:

1. Evaluate the effectiveness of Video Assisted Teaching Program
2. Find out the feasibility of conducting the final study and
3. Determine the method of statistical analysis

Fourteen primary school teachers working in RC International School were selected. On day 1, pre-test was conducted by using structured knowledge questionnaire; on the same day Video Assisted Teaching Program was conducted for 1

Hour. On 8th day, the post-test was conducted by using same structured knowledge questionnaire to evaluate the effectiveness of Video Assisted Teaching Program on knowledge regarding autism among primary school teachers.

The overall mean percentage knowledge score of post-tests (81.05%) was higher than the mean percentage knowledge score of pre-tests (37.89%), with the enhancement mean percentage knowledge scores (43.16 %) were found to be significant at 5% ($P < 0.05$) level. The findings of the Pilot Study revealed that the Study is feasible.

Data Collection and Procedure

After obtaining permission from the Principal of RC International School, Euro School, and KMV Red Hill School, Bengaluru and consent from subjects the pre-test was conducted to 50 primary school teachers working in these schools by using structured knowledge questionnaire; approximately 45 minutes were spent for collecting data. The investigator gathered primary school teachers in a comfortable room and conducted VATP. After 7 days post-test was given with the same structured knowledge questionnaire. Each subject took about 45 minutes to complete the post-test. All the participants co-operated well with the investigator in both pre-test and post-test. The data collection process was terminated by thanking the subjects.

Plan of Statistical Data Analysis

The data obtained was analysed in terms of achieving the objectives of the study using descriptive and inferential statistics.

Descriptive Statistics

1. Frequency and percentage will be used to analyse personal data of Primary school teachers.
2. Percentage distribution, mean, mean percentage and standard deviation will be used to assess the level of knowledge of primary school teachers.

Inferential Statistics.

Paired 't' test will be used to compare the pre-test and post-test knowledge scores. Chi-square will be used to determine the association between level of knowledge and selected personal variables.

Results:-

Analysis and interpretation of data involves the objective material in the possession of the researcher and his subjective reactions and desire to derive from the data the inherent meanings in that relation to the problem. This chapter deals with the analysis and interpretation of data collected to evaluate the effectiveness of video assisted teaching program regarding Autism among primary school teachers working in selected primary schools Bangalore. The purpose of this analysis is to reduce the data to a manageable and interpretable form so that the research problems can be studied and tested.

The analysis and interpretation of data of this study are based on data collected through structured knowledge questionnaire from primary school teachers (N=50). The results were computed using descriptive and inferential statistics based on the following objectives. The level of significance was set at 0.05%. To begin with, the data was entered in a master sheet, for tabulation and statistical processing. In order to find the relationship, the data was tabulated, analysed and interpreted by using descriptive and inferential statistics. The data is presented under the following headings.

Section 1: Socio-demographic characteristics of respondents under study.

Section 2: Overall and aspect wise knowledge scores of respondents

Section 3: Analysis of association between Socio-demographic variables and post-test Knowledge scores

Section-1: Socio-Demographic characteristics of respondent stable

–1 Classification of Respondents by Age N=50

Characteristics	Category	Respondents	
		Number	Percent
Age (years)	21-30	24	48%
	31-40	13	26%
	41-50	8	16%
	51-60	5	10%
Total		50	100%

Table no. 1 & Figure 2. Shows that majority 48% of the respondents fall between the ages of 21-30 years, 26% of the respondents fall between the age of 31-40 years, 16% of the respondents fall between the age of 41-50 years and the remaining 10% of the respondents comes under the age group of 51-60 Years

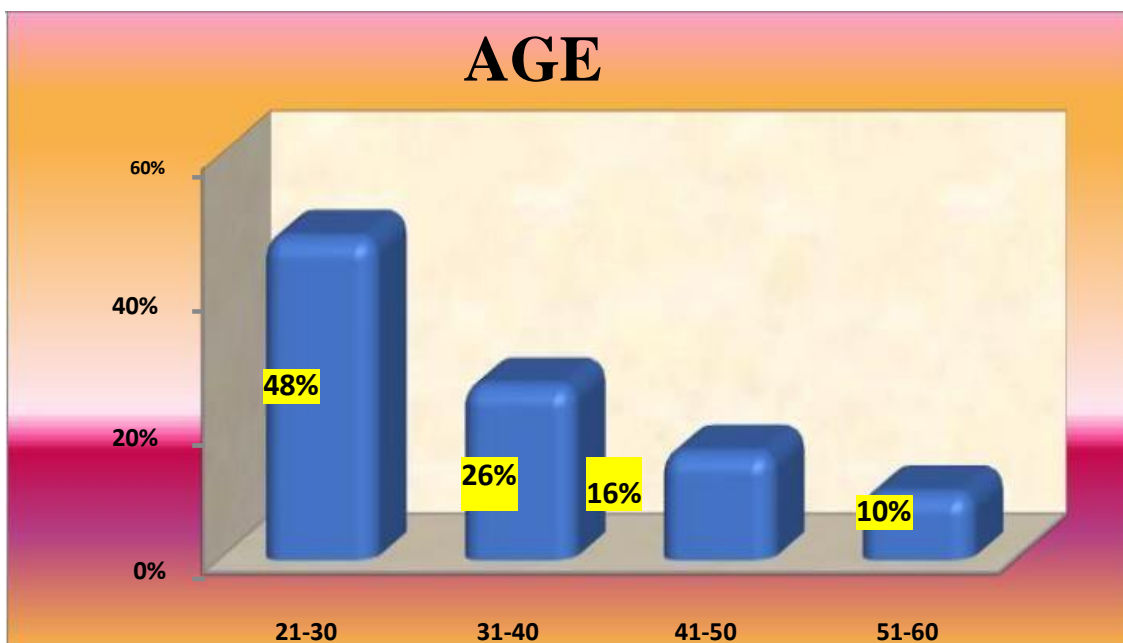


Figure2:- Classification of Respondents by Age.

Table 2:- Classification of Respondents by Gender N=50.

Characteristics	Category	Respondents	
		Number	Percent
Gender	Male	06	12.0
	Female	44	88.0
Total		50	100.0

Table no.2 & Figure 3: shows that majority 88% of respondents are females and the remaining 12% are males.

Figure3:- Classification of Respondents by gender.

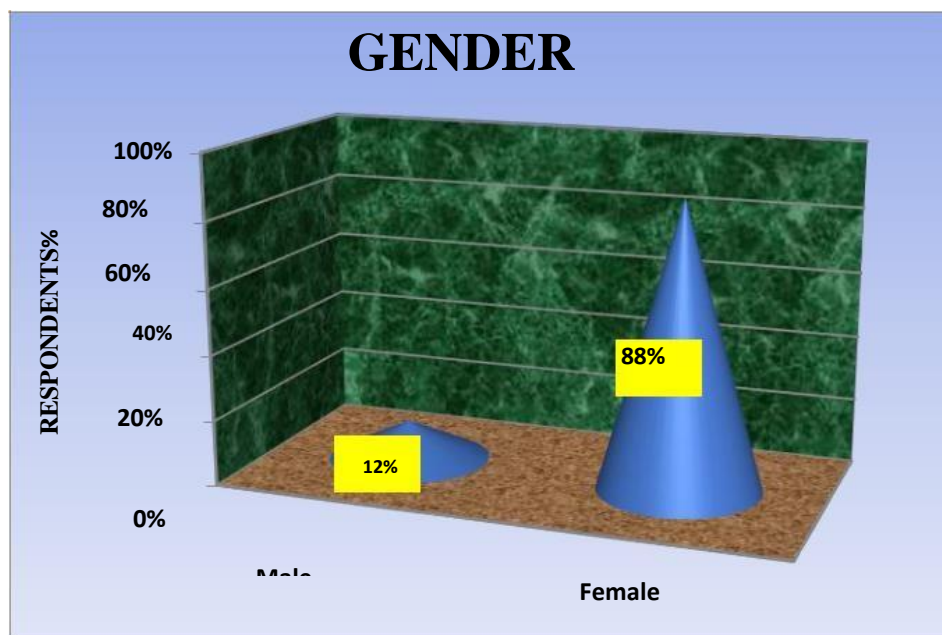
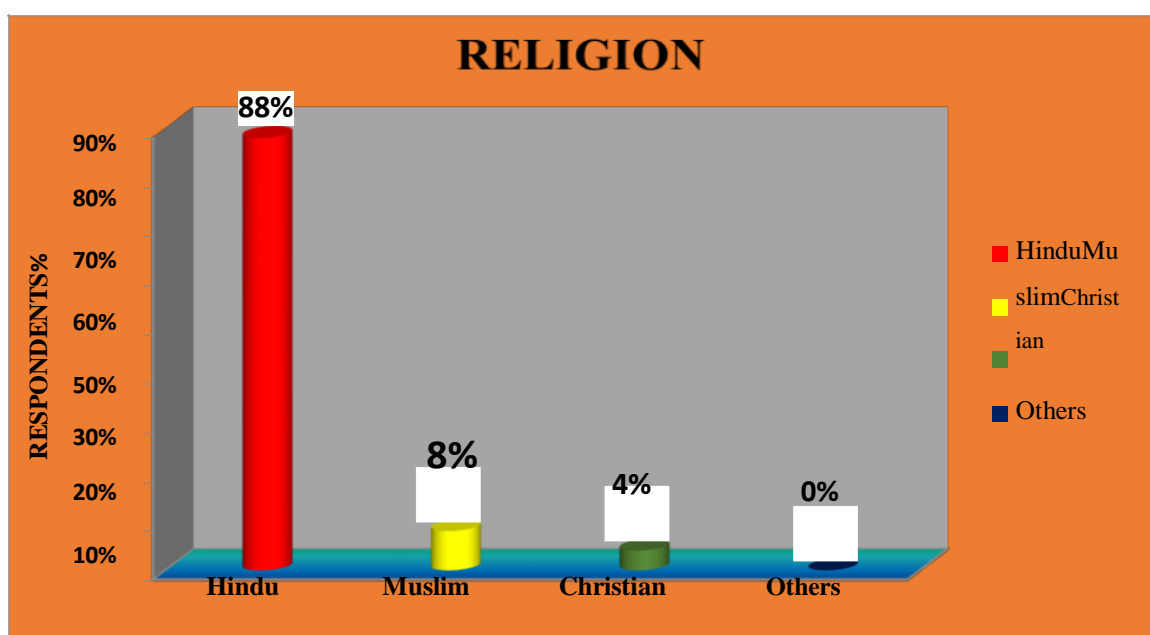


Table 3:- Classification of Respondents by Religion N=50

Characteristics	Category	Respondents	
		Number	Percent
Religion	Hindu	44	88%
	Muslim	4	8%
	Christian	2	4%
	Others	0	0%
Total		50	100%

Table no. 3 & Figure 4: shows that majority of the respondents 88% are Hindus, 8% Muslims, and remaining 4% Christian.

**Figure 4:-** Classification of Respondents by Religion.**Table 4:-** Classification of Respondents by Professional Qualification N=50

Characteristics	Category	Respondents	
		Number	Percent
Professional Qualification	TCH/D.Ed	31	62%
	B.Ed./BP.Ed	19	38%
	MA/M.Ed.	0	0%
	Any Others	0	0%
Total		50	100%

Table no. 4 & Figure 5: show that professional qualification of 62% of the respondent's is TCH/D.Ed., and remaining 38% are B.Ed./BP.Ed holders.

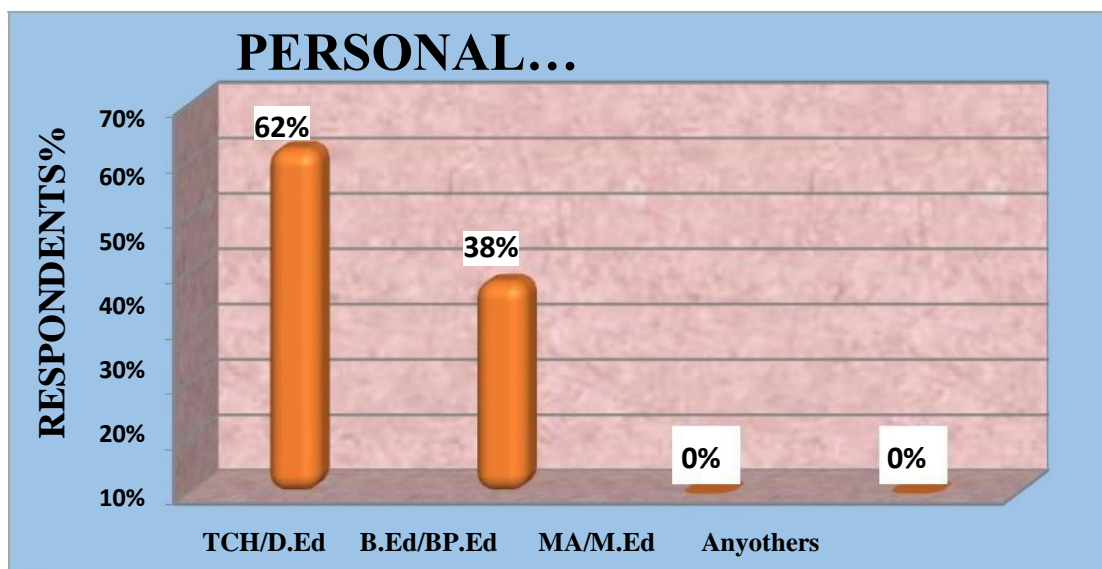


Figure5:- Classification of Respondents by Professional Qualification.

Table 5:- Overall Pre -test and Post- test Mean Knowledge on Autism N=50.

Aspects	Max.	Respondents Knowledge			Paired 't'
	Score	Mean	SD	Mean(%)	
Pretest	38	14.48	2.88	38.1	28.27*
Posttest	38	30.22	2.58	79.52	
Enhancement	38	15.74	-0.3	41.42	

*Significant at 5% level,

$t(0.05, 49df)=1.96$

Table 5 & Figure 6: depicts that pre-test mean knowledge score was 38.1% and post-test value was 79.52%. With enhancement of 41.42%, with paired "t" test value of 28.27*. It is significant at 5% level.

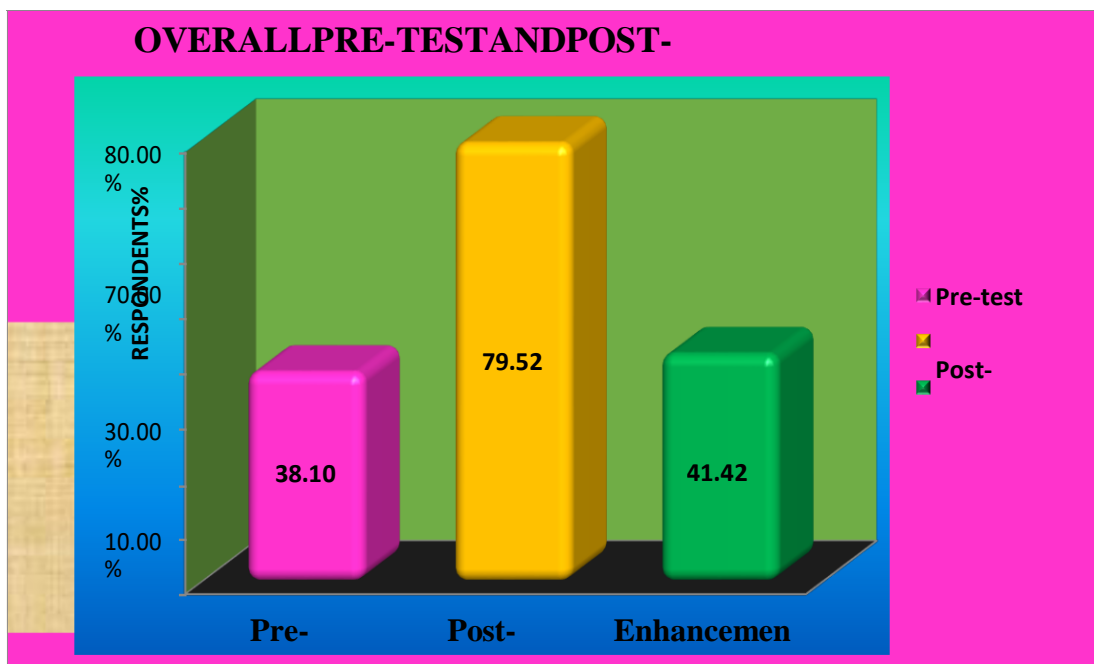


Figure.6:- Over all Pre-test and Post-test mean Knowledge on Autism.

Conclusion:-

This paper presents the implications and recommendations toward the aim of the study, to assess the existing knowledge of primary school teachers on autism and to conduct video assisted Teaching Program regarding autism among primary school teachers. The VATP contains general information regarding autism, prevalence and risk factors of autism, symptoms and complications of autism, identification of autism, and management of autism which helps the primary school teachers to enhance their knowledge and helps them to manage the children with autism. The following conclusions were drawn on the basis of the findings of the study:

1. The pre-test knowledge score among majority of primary school teachers were found to be inadequate and post-test knowledge score is enhanced.
2. There was significant enhancement in knowledge of primary school teachers after conducting video assisted Teaching Program on autism.
3. There was significant association between post-test knowledge scores and selected socio-demographic variables such as religion, professional qualification, source of information, and years of experience at 0.05 levels.

The findings of the study revealed that there was no significant association between post-test knowledge score and selected socio-demographic variables such as age in years, gender, religion, professional qualification, marital status, and years of teaching experience, pre-exposure to autism child, monthly income and in service education regarding autism at 0.05 levels.

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