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Pavithra J
Department of Mental Health Nursing, Smt. Nagarathnamma College of Nursing, Bangalore, Karnataka, India

Gangadhar KR
PG Guide, Psychiatric Nursing S.D.S.T.R.C & R.G.I.C.D., College of Nursing, Bangalore, Karnataka, India

Prof. Devi Nanjappan
Principal Smt. Nagarathnamma, College of Nursing, Bangalore, Karnataka, India

A study to evaluate the effectiveness of video assisted teaching programme on knowledge regarding autism among primary school teachers in selected schools at Bengaluru

Pavithra J, Gangadhar KR and Devi Nanjappan

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Abstract
Was conducted in partial fulfillment of the degree of master science in nursing at Government College of nursing, Bangalore.
Objectives of the Study
1. To assess the knowledge of primary school teachers regarding autism before and after administering the video assisted teaching program.
2. To evaluate the effectiveness of video assisted teaching program on autism.
3. To find the association between level of knowledge of primary school teachers regarding autism and selected socio-demographic variables.

Method: Pre-experimental design, with convenient sampling method was used. Information was collected from 50 primary school teachers regarding autism using the structured knowledge questionnaire. VATP was implemented and post-test was conducted after 7 days to find the effectiveness.
Result: 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 ($p>0.05$).
Interpretation and Conclusion: 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.
Hypotheses
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 selected demographic variables.

Keywords: Association between, pre-test knowledge

Introduction
"Children must be taught how to think, not what to think"

-Margaret Mead

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 [1].

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 [2].

Corresponding Author:
Pavithra J
Department of Mental Health Nursing, Smt. Nagarathnamma College of Nursing, Bangalore, Karnataka, India

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Reviews of literature

Review of literature is a key step in the research process. Review of literature refers to an extensive, exhaustive and systematic examination of publications relevant to the research project. The typical purposes of review of literature are to generate research questions to identify what is known and not known about a topic, to identify a conceptual a theoretical tradition within the bodies of literature, and to describe methods of enquiry used in earlier work including their success and shortcomings [26].

Research Methodology

1. 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].
2. This chapter deals with the description of research methodology adopted by the investigator. The steps undertaken for gathering and organizing the data collected were; Research approach, Research design, Setting, Population, Sample, Sample size and sampling technique, Criteria for selection of sample, Development and Description of tool, Pilot study, Data collection and Plan for data analysis.
3. **Research Approach:** 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 analyze 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.

Research Design

The research design is the plan, structure and strategy of investigation for answering the research questions, it is the overall plan or blue print 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 [26]. The research design selected for the present study is pre experimental with one group pre-test and post-test design.
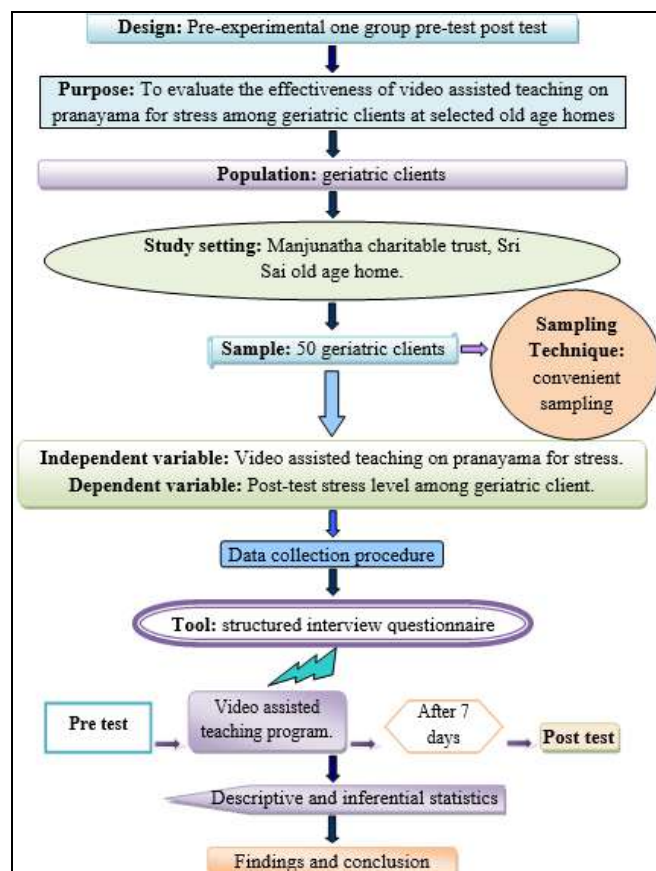

Fig 1: Schematic representation of research plan

Classification of respondent's knowledge by post-test knowledge scores levels. The results showed that in the post-test 74% of respondents had adequate knowledge about autism, 26% of the respondents had moderate knowledge, and none of the respondents had inadequate knowledge.
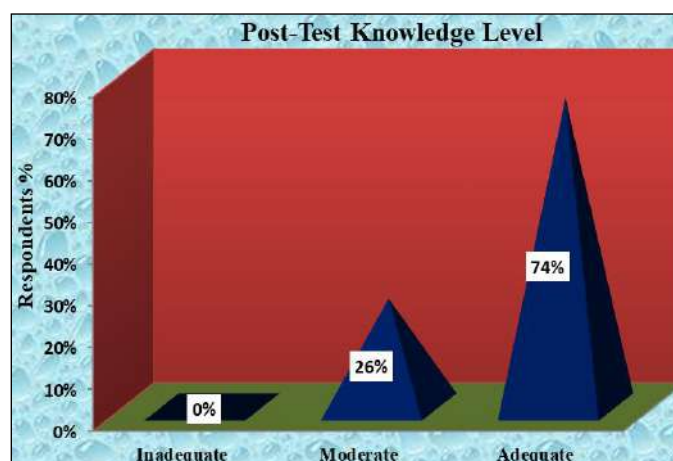

Fig 2: Classification of Respondents on Post-test Knowledge level on Autism

Table 1: Aspect wise Post-test Mean Knowledge scores of Respondents on Autism N=50

No.	Knowledge Aspects	Statements	Max. Score	Respondents Knowledge		
				Mean	SD	Mean (%)
I	General Information of Autism	07	07	5.7	0.92	81.42
II	Symptoms and Complications of Autism	13	13	10.2	1.57	78.61
III	Identification of Autism	05	05	4.18	0.86	83.6
IV	Management of Autism	13	13	10.12	1.59	77.84

Table 2: Over all Pre -test and Post-test Mean Knowledge on Autism N=50

Aspects	Max. Score	Respondents Knowledge			Paired 't' Test
		Mean	SD	Mean (%)	
Pre test	38	14.48	2.88	38.1	28.27*
Post test	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

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.
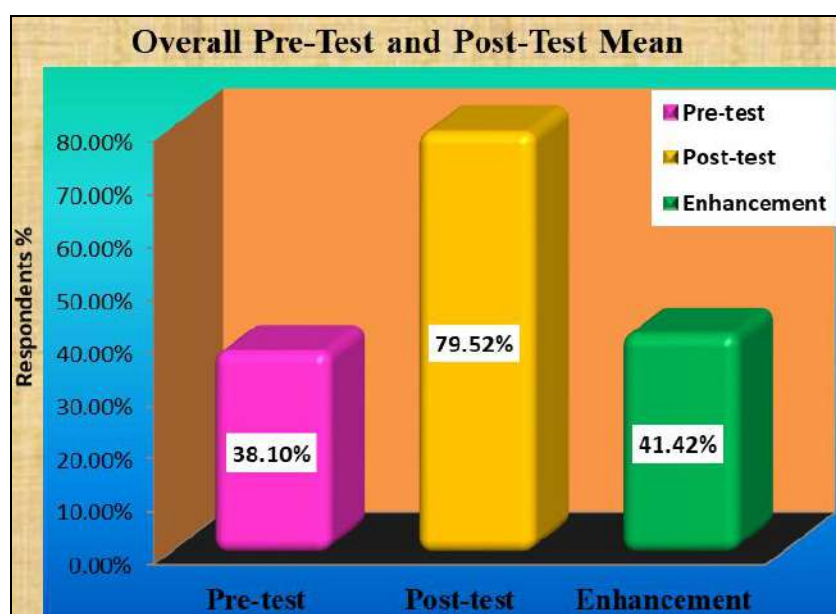
Fig 3: Over all Pre- test and Post-test mean Knowledge on Autism

Pre-test 84% of them had inadequate knowledge, 16% of them had moderate knowledge and none of them had adequate knowledge. In post-test none of them had inadequate knowledge, 26% had moderate knowledge and 74% had adequate knowledge.
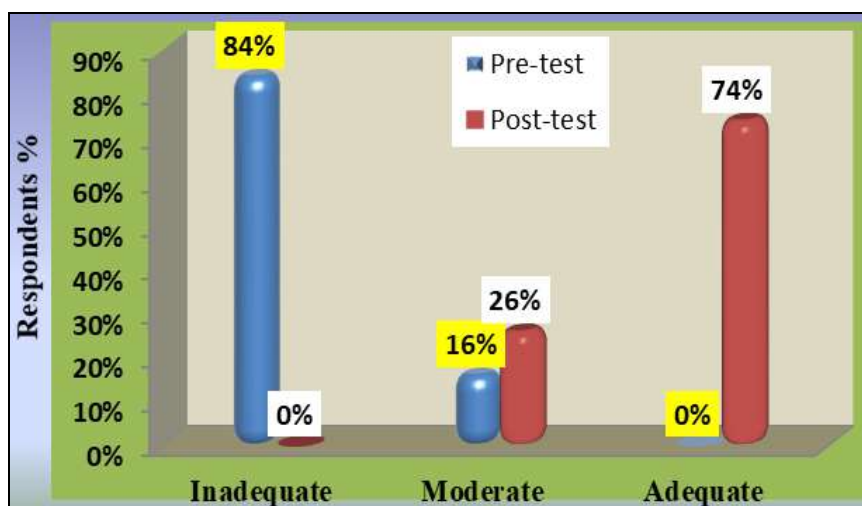

Fig 4: Classification of Respondents on Knowledge level on Autism Association between Socio-demographic variables and Post-test Knowledge level of Respondents on Autism

Table 3: Classification of Respondents on Knowledge level on Autism

Knowledge Level	Category	Classification of Respondents				χ^2 Value
		Pre test		Post test		
		Number	Percent	Number	Percent	
Inadequate	≤ 50% Score	42	84%	00	00	
Moderate	51-75% Score	08	16%	13	26%	80.18*
Adequate	> 75% Score	00	00	37	74%	
Total		50	100.0	50	100.0	

*Significant at 5% level, χ^2 (0.05, 49df) = 1.96

6. Discussion

A report of findings is never sufficient to convey their significance. The meaning that researchers give to the results plays a right and important role in the report. The discussion section is devoted to a thoughtful and insightful analysis of the finding, leading to a discussion of their clinical and theoretical utility [26].

This chapter deals with the discussion of the study with appropriate literature review, statistical analysis and findings of the study based on objectives of the study. The present study was done to evaluate the effectiveness of video assisted teaching program regarding autism in terms of knowledge among primary school teachers in selected schools at Bengaluru.

The following components were used to conduct this study
Part I: Socio-demographic variables of primary school teachers.
Part II: Structured knowledge questionnaire about autism.

The findings of the study are discussed under the following headings
1. Socio-demographic characteristics.
2. Assessment of existing knowledge of primary school teachers on autism.
3. Evaluating the effectiveness of video assisted Teaching Program regarding autism among primary school teachers.
4. Association between post-test knowledge scores with selected Socio-demographic variables.
5. Testing of the hypothesis.

1. Socio-demographic characteristics

This section dealt with the analysis of selected socio-demographic variables based on the frequency and percentage distribution of the samples.

The major findings of the study was summarized as follows. The majority 48% of the respondent's fall between the ages of 21-30 years, 26% of the respondents fall between the ages of 31- 40 years, 16% of the respondents fall between the age of 41-50 years and the remaining 10% of the respondents fall into the age group of 51-6.

The majority 88% of respondents are females and the remaining 12% are males.

The majority of the respondents 88% are Hindus 8% Muslims and remaining 4% Christian.

The majority 62% of the respondent's professional qualification is TCH/D.Ed. and remaining 38% are B.Ed./BP.Ed holders. The majority 76% of the respondents is married, 16% of respondents are unmarried and remaining 8% of respondents are widows. The majority 50% of respondents got information regarding autism from mass media, 40% received from health personnel and remaining 10% from peer group.

Pre exposure with Autism Child
The majority 80% of the respondents were not experienced with autism child and remaining 20% were experienced with autism child.

2. Assessment of existing knowledge of primary school teachers on autism

The present study confirms that the overall knowledge in pre-test is 38.1%, which is inadequate. This shows that there is lack of information among primary school teachers regarding autism. Although some primary school teachers had moderate knowledge (16%) and majority of them had inadequate knowledge (84%) regarding autism. Hence it is necessary to provide education in order to enhance knowledge on autism.

The present study is supported with another study conducted to assess the autism knowledge among pre-service teachers and the Sample size was 176 pre-service teachers. The result shows that 75% of the participants have limited experience in interacting with autistic disorder. The mean score of the perceived knowledge was 3.7. The Study concluded that pre service teachers have a lack of knowledge regarding autistic children and they need more education about autistic disorder [46].

A study was conducted to assess the preschool teacher's knowledge, attitude and practices on childhood developmental behavior among 503 preschool teachers aged 30 to 44 years. Data was collected through self-structured questionnaire. The result shows that pass rate of knowledge score of autistic disorder was >40%. The study concluded that preschool teachers need more care to improve their skills and special need education [54].

3. Evaluating the effectiveness of video assisted Teaching Program regarding autism among primary school teachers

The present study confirmed that there was a considerable improvement of knowledge after the video assisted Teaching Program on autism and is statistically established as significant. The overall pretest mean knowledge score was 38.1% and post test score was 79.52% with 41.42% mean percentage knowledge enhancement.

A pilot study was conducted to investigate the effectiveness of video assisted teaching regarding autism in special school teachers. The Sample size of the study was 16 Pre Special School Teachers were randomly assigned to six weeks. In this study sample is divided into control group and experimental group. The result shows that there was a significant difference between the control group and the experimental group knowledge regarding autism. The study concluded that video assisted teaching was effective [62].

4. Association between post-test knowledge scores with selected personal variables

Among Socio-demographic variables analyzed in this study, religion (6.29*), professional qualification (6.84*), source of information regarding autism (6.39*), and years of teaching experience (8.32*) were found significant with posttest knowledge scores at 5% level. There was no significant association between, age in years (0.58), gender (0.19), marital status (2.23), pre exposure to autism child (4.39), monthly income (1.83) and in service education regarding autism (1.12) and the post-test knowledge scores.

5. Testing the hypotheses

H₁: There will be a significant difference between pre and posttest knowledge scores regarding autism among primary school teachers.

In this study the overall pretest mean knowledge score was 38.1% and post test score was 79.52% with 41.42% mean percentage knowledge enhancement.

The hypothesis H₁ stated in the study is accepted since there was significant change found between the pre-test and post-test knowledge scores regarding autism among primary school teachers at $p<0.05$ level (5%). Hence, the stated hypothesis H₁ is accepted because there was a significant improvement in knowledge scores of primary school teachers after administration of the video assisted Teaching Program on autism.

H₂: There will be a significant association between posttest knowledge scores regarding autism among primary school teachers and selected Socio- demographic variables.

The investigator accepts the hypothesis H₂ for significant association between religion, professional qualification, source of information regarding autism and years of teaching experience and knowledge scores. But the investigator rejects the hypothesis H₂ with few non-significant socio-demographic variables such as age in years, gender and marital status, pre exposure to autism child, monthly income and in service education regarding autism and knowledge scores.

7. Conclusion

This chapter presents the conclusions drawn, implications and recommendations. The main aim of the study was 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.

4. 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, years of teaching experience, pre exposure to autism child, monthly income and in service education regarding autism at 0.05 levels.

Nursing implications

The main aim of the present study is to educate the primary school teachers regarding autism. The study revealed that there are gaps in knowledge of primary school teachers. It is indicated that concentrated efforts should be taken by health professionals in educating the primary school teachers regarding autism to impart knowledge and to instill confidence which help them to manage the children with autism. The findings of this study have implications in the field of Nursing education, Nursing practice, Nursing administration and Nursing research. The dissemination of the knowledge takes place when the research findings are made use in the following fields.

Nursing practice

Nursing profession has been developing faster in recent years in a unique way. The major change that has occurred in the profession is expansion in the role of nurses. One of the major roles that nurse play is educating the client and community regarding various health related facts. Updating the knowledge of staff nurses is a very important task which helps the staff nurses to prepare primary school teachers to manage the children with autism. It is very essential for the staff nurses to acquire necessary information regarding autism.

1. The study shows various degree of deficiency in the knowledge regarding autism among primary school teachers, for this nurses need to have adequate knowledge regarding autism to enhance the knowledge of people who come in contact with children.
2. By providing adequate knowledge to primary school teachers the health care providers can motivate the teachers to identify and manage the children with autism.

Nursing research

1. The study will motivate the beginning researchers to conduct same study with different variables on a large scale.
2. Nurses should come forward to take up unsolved questions in the field and nursing fraternity. The public and private agencies should also encourage researcher in the field through materials and funds.

Limitations of the study

1. The study is limited only to primary school teachers who are working in Crescent, St. Antony, K.K International and Blossom Public schools.
2. The study did not use control group.
3. Only a single domain that is knowledge is considered in the present study.
4. The sample for the study was limited to 50 primary school teachers.

Recommendations

On the basis of the findings of the study following recommendations have been made:

1. A replication of present study can be conducted with a larger population.
2. A similar study can be conducted in different school settings such as nursery and special school for autism child.
3. This study can be conducted in different settings in Government, private schools and in rural areas and then due results can be compared.
4. Manuals and information booklets may be developed to enhance knowledge on autism.

8. Summary

This chapter deals with the summary of the study and its major findings along with implications. The study was conducted to evaluate the effectiveness of Video Assisted Teaching Program regarding autism in terms of knowledge among primary school teachers in selected schools at Bengaluru, Karnataka.

Objectives of the Study

1. To assess the knowledge of primary school teachers regarding autism before and after administering the video assisted teaching program.
2. To evaluate the effectiveness of video assisted teaching program on autism.
3. To find the association between level of knowledge of primary school teachers regarding autism and selected socio-demographic variables.

Assumptions

1. Primary school teachers will have some knowledge regarding autism
2. Video-assisted teaching programme regarding autism can be helpful in enhancing the knowledge of primary school teachers.

Hypotheses

H$_1$: The mean post-test knowledge scores of primary school teachers regarding autism will be significantly higher than their mean pre-test knowledge scores.

H$_2$: 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 frame work and in the development of tool.

Major findings of the study

A. Findings related to demographic characteristics of the subjects

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

B. Findings related to knowledge on autism among primary school teachers

- 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%.
- 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.

C. Findings related to association between Socio-demographic variables and post-test knowledge scores

- The association between post-test knowledge score and socio-demographic variables computed by using chi-square test.
- There was significant association between religion, professional qualification, source of information on autism, teaching experience in years and knowledge scores.
- However, there was no significant association between socio-demographic variables such as age in years, gender, and marital status, pre exposure to autism child, monthly income, and In-service education on autism and knowledge scores.

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