

# Effect of Video based Teaching on Knowledge and Attitude regarding ADHD of Children among Primary School Teachers

Vijyeta Bhasin<sup>1</sup>, Srinivasan P.<sup>2</sup>, Uma J. Deaver<sup>3</sup>, Jyoti Sarin<sup>4</sup>

<sup>1</sup> Nursing Tutor, Department of Mental Health Nursing, Maharishi Markandeshwar Institute of Nursing, Mullana, Haryana, India, <sup>2</sup> Former Associate professor, HOD of Department of Mental Health Nursing, Maharishi Markandeshwar College of Nursing, Mullana, Haryana, India and currently working as Nursing tutor at AIIMS Patna, India, <sup>3</sup> Professor, HOD of Department of Community Health Nursing, <sup>4</sup> Dean, Director- Principal of Maharishi Markandeshwar College of Nursing, Mullana, Haryana, India

## Abstract

**Background:** Attention deficit hyperactivity disorder (ADHD) is the most pervasive disorder of childhood affecting about 3% to 5%. Early identification and intervention of this problem are very important to address issues at early age. **Materials and method:** Quantitative approach and quasi experimental non equivalent control group pretest-posttest design was used. Total 100 primary school teachers (54 in experimental group and 46 in comparison group) were recruited by convenience sampling technique. Tools in the study were selected variables, structured knowledge questionnaire and structured attitude scale. **Results:** Mean post-test knowledge score ( $t= 5.24$ ,  $p=0.00$ ) and mean posttest attitude score ( $t=4.10$ ,  $p=0.00$ ) was higher than mean pretest knowledge and attitude score in experimental group. There was a weak positive correlation ( $r=0.282$ ) in experimental and a moderate positive correlation ( $r=0.406$ ) in comparison group. There was no significant association of knowledge except gender ( $p=0.03$ ) and teaching experience ( $p=0.04$ ) in experimental group and except religion ( $p=0.03$ ) in comparison group. There was no significant association of attitude in experimental group and except age ( $p=0.03$ ) in comparison group. Regression shows teaching experience having predictability,  $R= 30.10\%$  ( $0.301$ ) on knowledge and qualification having predictability on attitude,  $R= 34.20\%$  ( $0.342$ ) in experimental group. In comparison group, number of children having predictability,  $R= 32.70\%$  ( $0.327$ ) on attitude. It was concluded that Video based teaching was effective to improve the knowledge and attitude regarding ADHD of children.

**Key words:** Video based teaching, Knowledge, Attitude, Primary school teachers, ADHD, children

## Introduction

Attention deficit hyperactivity disorder (ADHD) is reportedly the most pervasive disorder of childhood affecting approximately 3% to 5% of school-aged children and its prevalence rate increasing significantly over the past two decades<sup>1</sup>

According to American Psychiatric Association, ADHD is defined as “the disorder, characterized by a persistent pattern of inattention and/or hyperactivity-impulsivity that is more frequently displayed and more severe than is typically seen in individuals at a comparable level of development.”<sup>2</sup> ADHD is usually first diagnosed in childhood and many children who diagnosed with ADHD demonstrate symptoms that persist later into adolescence and adulthood.<sup>1</sup>

---

### Corresponding Author:

**Vijyeta Bhasin**

Nursing Tutor, Department of Mental health nursing  
Maharishi Markandeshwar Institute of Nursing  
Mullana, Haryana, India, vvvijyeta@gmail.com

**Teachers have a main impact on children's health. Currently, the need of ADHD children in India is not being met in schools. These children could function very well in a regular school and learn valuable social skills from his peers.<sup>3</sup>**

If the special needs of these children are not met, it will result in poor academic performance and related psycho-social problems. Thus, early identification and intervention of these problems are very important. **Teachers must be trained to identify the symptoms of ADHD and learning disabilities in schools, so that issues can be addressed at early age.**<sup>4</sup>

Studies show that interventional programs have a role in an increasing knowledge of teachers regarding ADHD, improving awareness and understanding for this disorder which lead to better performance of these children in the classroom..<sup>5</sup>

## Methodology

The study was conducted during the period from March 2017 to July 2018 in the state of Haryana, India. A sample of 100 primary school teachers participated in this quasi-experimental study with the prior permission from District Education Officer. The *ethical clearance* was obtained from university research ethics committee of Maharishi Markandeshwar Deemed to be University Mullana, Ambala (MMDU/IEC/975) and the study was carried out in accordance with the guidelines laid by Indian Council for Medical Research ICMR (2006). The written consent from primary school teachers was collected prior to the study. Quantitative research approach with quasi-experimental non equivalent control group pretest post test design was used in this study. Primary school teachers who were working in selected Govt. primary schools of Ambala District, willing to participate in the study, able to read, write and understand Hindi were included for experimental group with the same criteria was included for comparison group. Primary school teachers who were working on part time basis and not available at the time of data collection were excluded. One Hundred participants were enrolled for the study. Out of which 54 primary school teachers were enrolled as experimental group with convenience sampling technique and 46 primary school teachers were enrolled as comparison group with convenience sampling technique. Data was collected by using structured knowledge Questionnaire and structured attitude Scale.

### Description of Tool

1. *Selected variables:* Age, gender, qualification,

marital status, number of children, religion, teaching experience, exposure to children with ADHD and source of information.

### 2. *Structured knowledge questionnaire:*

Structured knowledge questionnaire consisted of 25 items related to knowledge, which were collected from participants with self report (Paper and pencil) technique. The calculated KR20 internal consistency was 0.87

### 3. *Structured attitude scale:*

Structured attitude scale (5- point Likert scale) consisted of 23 items on attitude, which were collected from participants with self report (Paper and pencil) technique. The calculated Cronbach's alpha internal consistency was 0.84

### Procedure

The permission was taken to conduct the study in the Government primary schools from District Education Officer of Ambala District, Haryana. Final study was conducted in the month of October 2017- November 2017. Hundred teachers were selected using convenience sampling technique. Conveniently 26 schools were selected that is 10 schools for experimental group and 16 schools for comparison group and then the sample was chosen by convenience sampling technique. The subjects were informed regarding the objectives of the study and written consent was obtained. In experimental group, pre test was taken on day 1 between 9 am to 2 pm by administering the tool (selected variables, structured knowledge questionnaire and attitude scale). Maximum 2 schools were covered per day. Video of 30 minutes duration was shown on same day after pretest in a group of minimum 3 to maximum 10 primary school teachers with the help of laptop. Post test was taken on day 15. In comparison group, pre test was taken on day 1 between 9 am to 2 pm by administering the tool (selected variables, structured knowledge questionnaire and attitude scale). Maximum 4 schools were covered per day. No intervention was given to comparison group. Post test was taken on day 15. The data was collected and analyzed as per the plan of analysis by using SPSS version 20.

## Results

Mean post-test knowledge score ( $t= 5.24, p=0.00$ ) and mean posttest attitude score ( $t=4.10, p=0.00$ ) was

higher than mean pretest knowledge and attitude score in experimental group. There was a weak positive correlation ( $r=0.282$ ) in experimental and a moderate positive correlation ( $r=0.406$ ) in comparison group. There was no significant association of knowledge except gender ( $p=0.03$ ) and teaching experience ( $p=0.04$ ) in experimental group and except religion ( $p=0.03$ ) in comparison group. There was no significant association of attitude in experimental group and except age ( $p=0.03$ ) in comparison group. Regression shows teaching experience having predictability,  $R= 30.10\%$  (0.301) on knowledge and qualification having predictability on attitude,  $R= 34.20\%$  (0.342) in experimental group. In comparison group, number of

children having predictability,  $R= 32.70\%$  (0.327) on attitude.

Before administration of video based teaching, In experimental group, more than half of the teachers (55.6%) were having poor knowledge, less than half of the teachers (40.7%) were having average knowledge and least number of the teachers (3.7%) were having poor knowledge whereas in comparison group less than half of the (43.5%) teachers were having average knowledge, approximately One third of the teachers(34.8) were having poor knowledge, One fifth of the teachers (19.6%) were having good and least number of the teachers(2.2%) were having very poor knowledge.

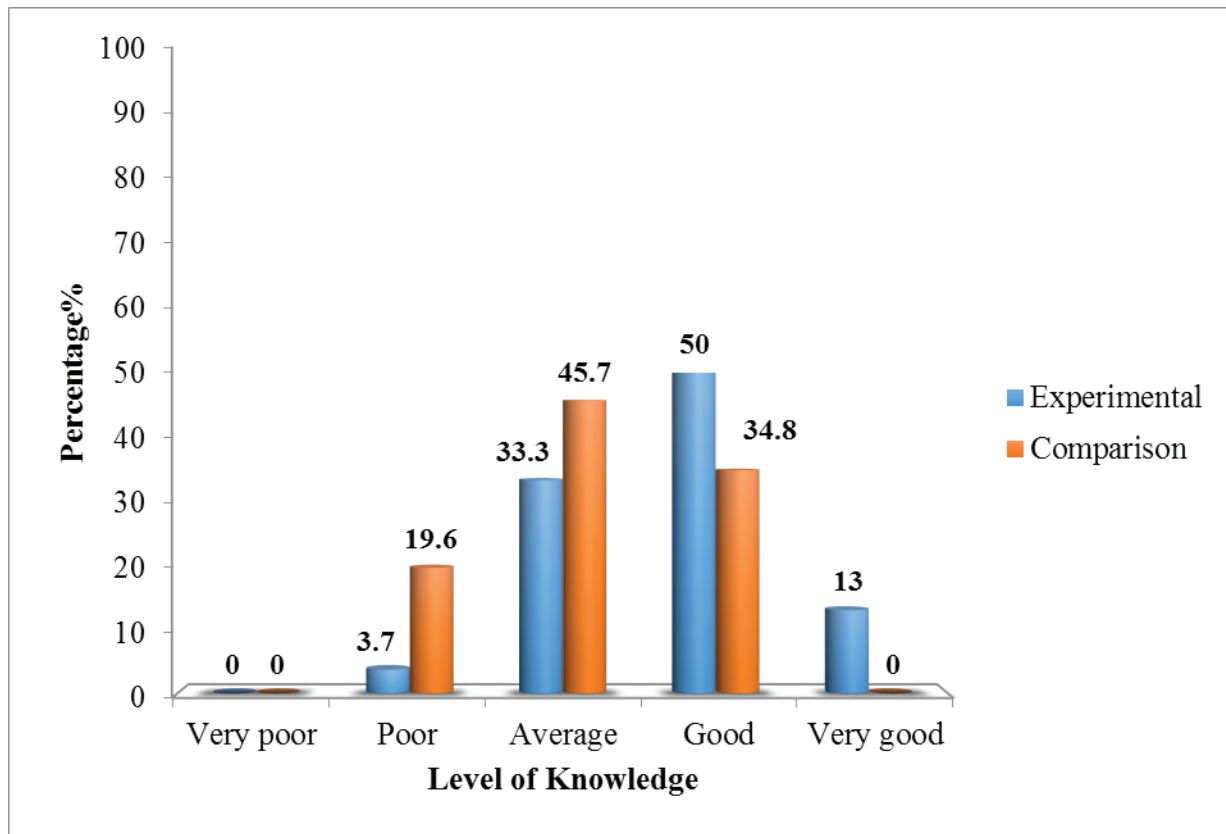


FIGURE 1- LEVEL OF KNOWLEDGE AFTER ADMINISTRATION OF VIDEO BASED TEACHING

After administration of video based teaching, In experimental group, half of the teachers (50%) were having good knowledge, one third of the teachers (33.3%) were having average knowledge, one third of the teachers (34.8) were having good knowledge, less than one third of the teachers (13%) were having very good knowledge and none of the teachers were having

very poor knowledge. Whereas in comparison group less than half of the (45.7%) teachers were having average knowledge, one third of the teachers (34.8%) were having good knowledge, least number of the teachers (19.6%) were having poor knowledge and none of the teachers were having very good knowledge.

**Table 1: Mean, Mean difference, Standard deviations of difference, Standard error of mean difference and ‘t’ value of Knowledge and Attitude among Primary school Teachers****N=100**

Variable	Group	Mean± SD	MD	SEMD	‘t’ value	df	p value
Knowledge (pre-test)	Experimental (n=54) Comparison (n=46)	19.59±5.48 24.26±6.54	4.66	1.20	3.88	98	0.00*
Attitude (pre-test)	Experimental (n=54) Comparison (n=46)	150.63±13.26 167.70±13.67	17.06	2.70	6.32	98	0.00*
Knowledge (post-test)	Experimental (n=54) Comparison (n=46)	33.26±6.57 26.46±6.29	6.80	1.29	5.24	98	0.00*
Attitude (post-test)	Experimental (n=54) Comparison (n=46)	172.06±13.40 162.15±10.15	9.90	2.41	4.10	98	0.00*

t(98)=1.90

\*- significant (p≤0.05)

the calculated ‘t’ value of knowledge (5.24) was more than table value i.e. 1.90 at df(98) which indicated that there was a significant difference in the mean score of knowledge between experimental and comparison group. The calculated ‘t’ value of attitude (4.10) was more than table value i.e. 1.90 at df(98) which indicate that there was a significant difference in the mean score

of attitude between experimental and comparison group which inferred that difference in the mean score was of a true difference and not by chance that post-test knowledge and attitude score of experimental group was significantly higher than post-test knowledge and attitude score of comparison group.

**Table 2: Correlation between Knowledge and Attitude among Primary school teachers****N=100**

Correlation (Post test)	Group	Knowledge r (p value)	Attitude r (p value)
Knowledge	Experimental (n=54)	xx	0.28 (0.039)*
Attitude	Comparison (n=46)	0.40 (0.005)**	xx

\*- mild correlation (weak correlation)

\*- significant (p≤0.05)

\*\*- moderate correlation

\*\*- highly significant (p≤0.01)

r(52)=0.202

r(44)=0.241

There was a weak positive correlation ( $r=0.282$ ,  $p=0.039$ ) between knowledge and attitude in experimental group and there was a moderate positive correlation ( $r=0.406$ ,  $p=0.005$ ) between knowledge and attitude in comparison group.

**Table 3: Post hoc value showing significant Mean difference in association of Knowledge regarding ADHD of children among Primary school teachers with Selected Variables**

N=100

		Category	Mean difference	Standard error	P value
Group Experimental group (knowledge)	Variables Teaching experience (in years)	<5 vs 6-10	-4.385	2.447	0.79NS
		<5 vs 11-15	-7.231	2.447	0.005*
		<5 vs more than 15	-3.882	2.364	0.107 NS
		6-10 vs 11-15	-2.846	2.447	0.250 NS
		6-10 vs more than 15	0.503	2.364	0.832 NS
		11-15 vs more than 15	3.349	2.364	0.163 NS
		Comparison group (attitude)	Age (in years)	21-30 vs 31-40	5.042
21-30 vs >40	2.772			5.984	0.889NS
31-40 vs >40	7.814			2.958	0.030*

In experimental group, the calculated ANOVA and ‘t’ test value between knowledge score and selected variables was found to be statistically non significant except total teaching experience ( $F=3.95$ ,  $p=0.04$ ). Post hoc shows that as teaching experience was significantly associated with knowledge, category <5 vs 11-15 was having significant high mean difference ( $p=0.005$ ).

In comparison group, the calculated ANOVA and ‘t’ test value between attitude score and selected

variables was found to be statistically non significant except age ( $F=3.52$ ,  $p=0.03$ ) Post hoc shows that as age was significantly associated with attitude, category 31-40 vs >40 was having significant high mean difference ( $p=0.030$ ).

Multiple regression analysis was performed to predict the effect of multiple independent variables( selected variables) over the dependent variable i.e., knowledge and attitude among experimental and comparison groups

**Table 4: Stepwise regression showing Predictability of Multiple Independent Variables on Knowledge and attitude among Experimental and comparison group (Multiple correlation coefficient)**

N=100

Group	Model	R value	R square	F	df	P value
Experimental (knowledge)	Pre test <5 years of teaching experience	0.301	0.090	5.169	1/52	0.027*
Experimental (attitude)	Elementary teacher training	0.342	0.117	6.873	1/52	0.011*
Comparison (attitude)	No. Of children- two children	0.327	0.107	5.275	1/44	0.026*
Experimental (knowledge)	Post test 11-15 years teaching experience	0.335	0.112	6.574	1/52	0.013*
Comparison (attitude)	Age	0.383	0.147	7.554	1/44	0.009*
	Age & Hindu religion	0.480	0.231	6.442	1/43	0.004*

\*- significant ( $p \leq 0.05$ )**Table 5: Stepwise regression showing Predictability of Individual Independent Variable on Knowledge and attitude among Experimental and comparison group (Regression coefficient)**

N= 100

Group	Model	Unstandardized Coefficients		Standardized Coefficients	t	p value
		B	SE	B		
Experimental (knowledge) Pretest	(Constant)	20.512	0.824		24.881	0.000*
	<5 years of teaching experience	-3.820	1.680	-0.301	-2.273	0.027*
Experimental (attitude) Pretest	(Constant)	154.212	2.191		70.376	0.000*
	Elementary teacher training	-9.212	3.514	-0.342	-2.622	0.011*
Comparison (attitude) Pretest	(Constant)	168.356	1.949		86.397	0.000*
	No. Of children- two children	-30.356	13.216	-0.327	-2.297	0.026*
Experimental (knowledge) Post test	(Constant)	34.488	0.977		35.315	0.000*
	11-15 years teaching experience	-5.103	1.990	-0.335	-2.564	0.013*
Comparison (attitude) Post test	(Constant)	180.610	6.860		26.327	0.000*
	Age	-0.454	0.165	0.383	-2.748	0.009*
	(Constant)	192.122	8.464	-0.424	22.700	0.000*
	Age & Hindu religion	-0.503	0.160	-0.293	-3.137	0.003*
		-10.440	4.818		-2.167	0.036*

\*Significant ( $p \leq 0.05$ )

In pretest, the teacher those who are having <5 years of teaching experience (reference group- >15 years teaching experience) having prediction with variability of 9% ( $R^2=0.090$ ) in knowledge among experimental group. The teacher those who are having qualification of elementary teacher training (reference group- other qualification) having prediction with variability of 11.70% ( $R^2=0.117$ ) in attitude among experimental group. The teacher those who are having two children (reference group- more than two children) had prediction with variability of 10.7% ( $R^2=0.107$ ) in knowledge among comparison group.

In post test, the teacher those who are having 11-15 years of teaching experience (reference group >15 years teaching experience) having prediction with variability of 11.20% ( $R^2=0.112$ ) in knowledge among experimental group. Age having prediction with variability of 14.70% ( $R^2=0.147$ ). Further if age combines with Hindu religion (reference group- Muslim religion), both variables together having prediction with variability of 23.10% ( $R^2=0.147$ ) in attitude among comparison group.

### Discussion

In present study, half of the primary school teachers (50%) belong to age group of less than 40 years. These findings are consistent with the study conducted by Shobha Masih, Rajesh K and Atul Kumar (2014)<sup>6</sup> where they found that half of the primary school teachers (50%) belong to age group of less than 40 years.

In present study, pretest mean knowledge score (19.59) was lower than posttest mean knowledge score (33.26),  $p=0.00$ . These findings were consistent with the findings of Maloti DK (2006)<sup>7</sup> where it was found that pretest knowledge mean score (27.32) was lower than posttest mean knowledge score (34.76,  $p<0.00$ ).

In present study, pretest mean attitude score (150.63) was lower than posttest mean attitude score (172.06),  $t=10.299$  with  $p=0.00$ ) These findings were consistent with the findings of various studies i.e., study conducted by Gopi D, S Deepa (2016)<sup>8</sup> where they found that pretest attitude mean score (27.72) was lower than posttest mean attitude score (46.95,  $t=21.92$  with  $p<0.001$ ).

In present study, there was a significant weak positive correlation between post knowledge and attitude score in experimental group and a significant moderate positive correlation between post knowledge and attitude score in comparison group ( $r=0.282$ ,  $p=0.039$ ). These findings were consistent with the findings of Patil P (2013)<sup>9</sup> where it was found that there was significant positive correlation between knowledge and attitude of primary school teachers ( $r=0.27$ ,  $p=0.003$ ) at 0.05 level of significance.

In the present study, there was significant association of age with attitude regarding ADHD of children among primary school teachers ( $F=3.527$ ,  $p=0.038$ ) was significant associated with attitude. These findings were consistent with the findings of Naregal P (2015)<sup>10</sup> where it was found that age ( $\chi^2=14.769$ ,  $p<0.05$ ) was having significant association with attitude.

### References

1. CA P. Diagnosed attention deficit hyperactivity disorder and learning disability: United States, 2004-2006. - PubMed - NCBI [Internet]. Ncbi.nlm.nih.gov. 2018 [cited 26 December 2017]. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/189>
2. Mony EH. A Study to assess the knowledge and to evaluate the effectiveness of planned programme on Attention Deficit Hyperactivity Disorder for school teachers in selected rural area, Namakal District, Tamilnadu; 2003
3. Al Khatib J. A Survey of General Education Teachers' Knowledge of Learning Disabilities in Jordan. [Internet]. Eric.ed.gov. 2016[cited 29 December 2017]. Available from: <https://eric.ed.gov/?id=EJ814471>.
4. Nur, N., & Kavakc, O. Elementary school teachers' knowledge and attitudes related to attention deficit hyperactivity disorder. HealthMED, 2010;2,350-355.
5. Teachers autistic children-useful tips for teachers and educators. [online]. 2010 [26 December 2017];116. Available from: URL: <http://www.articlesbase.com/adhd-articles>.
6. Shobha M. Rajesh k. Atul K. atient Educ Couns Knowledge and attitudes towards attention deficit hyperactivity disorder among elementary school

- teachers [Internet]. 2014 [cited 2018 Jan 9];6(2):4–8.
7. Maloti DK. effectiveness of structural program on knowledge and attitudes towards attention deficit hyperactivity disorder among school teachers. Patient Educ Couns (Internet). 2006 Oct [cited 2018 Jan 9]
  8. Gopi D. S. Deepa. Knowledge and attitudes towards learning disorder among elementary school teachers [Internet]. 2016 May [cited 2018 Jan 9];5(1–2):84–6
  9. Patil P. effect of teaching on knowledge, practice and attitudes of primary school teachers. [Internet]. 2013 April [cited 2018 Jan 9];3(1–5):44–8.
  10. Nagpal P. Knowledge and attitudes towards first aid among school teachers. Patient Educ Couns [Internet]. 2015 Oct [cited 2018 Jan 9];13(1):24–7.