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**A STUDY TO ASSESS THE EFFECTIVENESS OF VIDEO ASSISTED
TEACHING ON KNOWLEDGE REGARDING DETECTION OF VISUAL
IMPAIRMENTS IN CHILDREN AMONG PRIMARY SCHOOL TEACHERS OF
SELECTED PRIMARY SCHOOLS IN WAGHODIA**

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ABSTRACT

Background: Childhood blindness is a major public health concern worldwide. In India, the prevalence of such blindness is estimated to be approximately 0.5/1,000 and at least 210,000 children have severe visual impairment (SVI) or blindness (BL). Approximately 15,000 are in schools for the blind and nearly half the causes are avoidable. Such blindness has far-reaching implications in terms of a child's development, education and employment opportunities, the total number of disability-adjusted life years lost, social and functional challenges, and the lifelong burden on the family. **Material & Methods:** A pre-experimental study with one group pre-test post-test design was conducted among 79 primary school teachers to assess the level of Knowledge of the primary school teachers regarding detection of visual impairment in children. The samples were selected by purposive sampling technique and informed consent was obtained before the start of the study. Inclusion and exclusion criteria of sampling was followed. The data was collected by semi structured knowledge questionnaire to assess the level of knowledge of the primary school

teachers in pre-test and post-test. Video assisted teaching programme (VAT) was carried out to impart knowledge among the respondents. The collected data was analysed by descriptive and inferential statistics. **Results:** The frequency and percentage distribution of the respondents showed that that majority of the samples were females 50 (63.29%), and 53 samples (67.09%) had the qualification of Bachelor of Education. Among the 79 samples 39.24% samples (31) were teaching the grade 1 students. The subjects taught by majority of the samples were other subjects 37 (46.82%). Assessment of pre-test level of knowledge showed that out of 79 samples 60 samples (75.94%) were found having inadequate knowledge and 17 samples (21.51%) were found having poor knowledge and 2 (2.53%) only found having adequate knowledge regarding detection of visual impairment in children. The post test assessment revealed that out of 79 samples 69 samples (87.34%) were found having adequate knowledge and 9 samples (11.39%) were found having inadequate knowledge and 1 (1.26%) only found having poor knowledge. The demographic variables found to have no association with pre-test level of knowledge of the respondents. The obtained “t” value 33.02 is found significant. Hence the video assisted teaching programme (VAT) was found to be effective. **Conclusion:** visual impairment is the major health problem in the present generation and it has to be identified in the earlier stages in order to manage the condition and to prevent the complications in associated with this in future. The teaching programme was found effective and the teachers must be vigilant in tracking the school children for detecting such problems.

Keywords: Assess, effectiveness, Video assisted teaching, Visual impairment, primary school teacher

INTRODUCTION

Poor vision in childhood affects performance in school and at work and has a negative influence on the future of the child.¹ According to WHO, approximately 314 million people worldwide live with low vision and blindness. Of these, 45 million people are blind and 269 million have moderate or severe visual impairments. Around 145 million people's visual impairment is due to

uncorrected refractive errors (near-sightedness, far-sightedness or astigmatism). In most of these cases, normal vision could be restored with eyeglasses. Eighty percent of blindness is avoidable i.e., due to causes which are curable, treatable and/or preventable by cost-effective means [1-4]. More than 30 % of children aged less than six in Bangalore, Karnataka suffer from vision

impairments such as refractive errors and squint. This is because parents tend to ignore their children's complaints of eye discomfort in the mistaken belief that the child is too young to have vision problems. If detected early and treated on time, most of them could be saved from vision defects. School teachers take the role of "second parents". Therefore, teachers are in a unique position to identify the impairments in the early stage itself. Teachers should be trained to screen children for eye problems. Objectives of the study were to evaluate the effectiveness of video assisted teaching on detection of visual impairments in children among teachers of primary schools, to find the association between pre-test knowledge and age, gender, working experience, qualification and source of information related to the detection of visual impairments. Also to find the association between pre-test skill with demographic variables. Another objective of the study was to determine the relationship between the post-test knowledge and skill scores on detection of visual impairments in children among teachers of primary schools [6, 7].

Statement of the problem

"A study to assess the Effectiveness of video assisted teaching on knowledge regarding detection of visual impairments in children among primary school teachers of selected

primary schools in Waghodia"

Objectives of the study

- To assess the knowledge regarding visual impairment in children among primary school teachers by pretest.
- To plan and execute video assisted teaching on knowledge regarding detection of visual impairments among primary school teachers.
- To find out the association between demographic variables and pretest knowledge of primary school teachers regarding visual impairment.
- To evaluate the effectiveness of video assisted teaching (VAT) on detection of visual impairments in children, among of primary school teachers.

Hypothesis

H₁ : There will be significant association between demographic variables and pre-test knowledge regarding detection of visual impairment among primary school teachers.

H₀ : There will be no significant association between demographic variables and pre-test knowledge regarding detection of visual impairment among primary school teachers.

MATERIAL & METHODS

The investigators have carried out the Pre-experimental one group Pre – test post-test design at Selected school of Vadodara district in Gujarat state. The sources were Primary

school teachers of the selected school. The calculated sample size was 79 primary school teachers.

Sampling technique

Samples will be identified by Non probability purposive sampling technique

Sample selection criteria

Inclusion criteria

The primary school teachers who

- Are willing to participate in the study
- Are available at the time of data collection
- Can read, write and understand English or Gujarati
- Teachers between 25-40 years of age.

Exclusion criteria

- Primary school teachers who attended this session previously.
- Those teachers who are not willing to take part.

RESULTS

Table 1 result depicts that majority of the samples were females 50 (63.29%), and 53 samples (67.09%) had the qualification of Bachelor of Education. Among the 79 samples 39.24% samples (31) were teaching the grade 1 students. The subjects taught by majority of the samples were other subjects 37 (46.82%).

The results of **Table 2** shows that out of 79 samples 60 samples (75.94%) were found having inadequate knowledge and 17 samples (21.51%) were found having poor knowledge and 2 (2.53%) only found having adequate knowledge regarding detection of visual impairment in children.

Table 3 reveals that out of 79 samples 69 samples (87.34%) were found having adequate knowledge and 9 samples (11.39%) were found having inadequate knowledge and 1 (1.26%) only found having poor knowledge regarding detection of visual impairment in children.

The demographic variables of the respondents were found to have no association with their selected demographic variables. Hence the hypothesis stated stands rejected (**Table 4**).

Table 5 result shows the Mean, Mean difference, standard deviation of pre-test and post-test Knowledge score were the mean of the post-test (17.8413) is higher than the mean score (10.556) of pre-test, were as the mean difference is (7.7857) between pre-test and post-test and standard deviation is (2.6460) with the “t” value is (33.028) which indicate that the video assisted teaching programme was effective.

Table 1: Frequency and percentage distribution of the samples according to their Demographic data

Gender	FREQUENCY	PERCENTAGE
a) Male	29	36.7%
b) Female	50	63.29%
Qualification		
a) Bachelor of Education	53	67.09%
b) Master of Education	2	2.53%
c) Bachelor of Arts	1	1.26%
d) Master of Arts	7	8.9%
e) Bachelor of Commerce	3	3.79%
f) Master of Commerce	3	3.79%
g) Graduate	10	12.66%
Grade of Teaching		
a) Grade 1	31	39.24%
b) Grade 2	7	8.86%
c) Grade 3	11	13.92%
d) Grade 4	12	15.19%
e) Grade 5	18	22.78%
Teaching subject		
a) Hindi	7	8.86%
b) Science	4	5.06%
c) Geography	1	1.26%
d) Social Science	2	2.52%
e) Maths	8	10.13%
f) Gujarati	5	6.33%
g) Sanskrit	3	3.79%
h) Physical Education	1	1.26%
i) English	8	10.13%
j) Computer	3	3.79%
k) Others	37	46.82%

Table 2: Assessment of Pre-test and post-test level of Knowledge of the respondents on detection of visual impairment in children

S. No.	Scoring Interpretation	Frequency	Percentage
		2	2.53%
2	Inadequate Knowledge (9-16)	60	75.94%
3	Poor Knowledge (1-8)	17	21.51%

Table 3: Post-test knowledge score in Experimental group

S. No.	Scoring Interpretation	Frequency	Percentage
		69	87.34%
2	Inadequate Knowledge (9-16)	9	11.39%
3	Poor Knowledge (1-8)	1	1.26%

Table 4: Association between level of knowledge of the respondents with their selected demographic variables

S. No.	Variables	Level of Knowledge			Total	X ²	d f	S/ NS
		Adequate	Inadequate	Poor				
Gender								
1	a) Male	1	21	7	29	5.1033 (p=0.077952)	2	NS
2	b) Females	1	24	25	50			
	Total	2	45	32	79			

S. No.	Variables	Level of Knowledge			Total	X ²	d f	S/ NS
		Adequate	Inadequate	Poor				
1	a) Bachelor Of Education	2	36	15	53	5.7271 (p=0.677775)	12	NS

2	b) Master Of Education	0	2	0	2			
3	c) Bachelor Of Arts	0	0	1	1			
4	d) Master Of Arts	0	4	3	7			
5	e) Bachelor Of Commerce	0	3	0	3			
6	f) Master Of Commerce	0	3	0	3			
7	g) Graduate	0	10	0	10			
	Total	2	58	19	79			

S. No.	Variables	Level of Knowledge			Total	X ²	d f	S/ NS
		Adequate	Inadequate	Poor				
1	a) Grade 1	2	20	9	31	4.3966 (p=0.819691)	8	NS
2	b) Grade 2	0	6	1	7			
3	c) Grade 3	0	7	4	11			
4	d) Grade 4	0	9	3	12			
5	e) Grade 5	0	13	5	18			
	Total	2	55	22	79			

S. No.	Variables	Level of Knowledge			Total	X ²	d f	S/ NS
		Adequate	Inadequate	Poor				
1	a) Hindi	0	7	0	7	16.5591 (p=0.035042)	20	NS
2	b) Science	0	3	1	4			
3	c) Geography	0	1	0	1			
4	d) Social Science	0	2	0	2			
5	e) Maths	0	8	4	8			
6	f) Gujarati	0	4	1	4			
7	g) Sanskrit	0	3	0	3			
8	h) Physical Education	0	0	1	1			
9	i) English	2	6	2	8			
10	j) Computer	0	3	0	3			
11	k) Other	0	24	13	37			
	Total	2	55	22	79			

Table 5: Effectiveness of Video assisted teaching programme on detection of visual impairment in children

Variables	Mean	Mean difference	Std. Deviation	't' value	Significance
Pre-test Knowledge score	10.05	7.78	2.64	33.02	Significant
Post-test Knowledge score	17.84				

DISCUSSION

Visual Impairment prevalence estimates reported in school-based studies from India varied from 0.7% to 5.67% from 2011 to 2019. In the current study, it was found to be 1.72% among school children aged between 4 and 15 years, which falls within the range of these school-based estimates. The difference

within these estimates could be explained by variations in definitions, and the inclusion and exclusion criteria used in these studies. The primary school teachers had moderately adequate knowledge in the pre-test session and the educational interventional program has enhanced their knowledge further [8, 9]. The present study findings revealed that visual

impairment is more prevalent in lower socio-economic families. The results also coincided with the similar study conducted 2018 found that the distribution of visual impairment in children from low-income families was higher [10]. Prabhu AV, Ve RS, Talukdar J (2019) conducted a cross-sectional study across eleven schools from both urban and rural parts of Udupi taluk to report the magnitude of visual impairment among the schoolchildren. The prevalence rate was significantly higher among students from urban area (5.6%) compared to those from rural area (3.6%) ($P = 0.011$). Visual impairment was found to be 4.32% in the school-going population of Udupi district. Effective and user-friendly devices aided the visual deficit screening including refractive error and squint [11, 12]. A Thieme, C Morrison, N Villar, M Grayson (2017) conduct a study to investigate how technology can support collaborative learning by children with mixed-visual abilities. Responding to a growing need for tools inclusive of children with vision impairments (VI) for the teaching of computer programming to novice learners, we explore Torino -- a physical programming language for teaching programming constructs and computational thinking to children age 7-11. The paper contributes insights on the role of touch, audio and visual representations in designs inclusive

of people with VI, and discusses the importance and opportunities provided through the 'social' in negotiations of accessibility, for learning, and for self-perceptions of ability and self-esteem [13, 14]. Little, GN Dutton (2015) describes and reflects upon the use of diffusely coloured tents to enclose both child and therapist which, in our service, has brought about remarkable transformations in attention, engagement, and understanding for severely impaired children with multiple disabilities and cerebral visual impairment [15].

CONCLUSION

Nursing education should emphasize the importance of video assisted teaching on visual impairment and necessary training should be given to the teachers on the aspect. The nurse in the working area of the community sector must engage the primary school children. By detection and identification may cure the problem at young age. Administration in both private and government sectors should take initiative action to update knowledge about the importance of knowledge regarding early detection of visual impairment in primary school children.

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