EFFECTIVENESS OF VIDEO ASSISTED TEACHING MODULE (VATM) ON KNOWLEDGE OF SCHOOL GOING CHILDREN REGARDING PREVENTION OF OBESITY IN A SELECTED PRIVATE SCHOOL AT BERHAMPUR,ODISHA

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Abstract

Globally, childhood obesity is a significant public health issue. According to WHO (2014),most of the world's population live in countries where there is overweight and obesity. Levels of childhood obesity are increasing at alarming rates in India and it can cause high blood pressure, heart disease, sleep problems, cancer, and other disorders. Keeping in view a pre–experimental one group pre test and post test design with experimental approach study "effectiveness of VATM on knowledge of school going children" was conducted in Project Upper Primary School, Berhampur, Odisha. Fifty students were selected by using systematic random sampling technique. Data were collected through closed ended questionnaire. During pre test the score was 27% whereas during post test it was 77.93% showing 50.93% effectiveness. Highly significant ($p<0.01$) difference was found between pre and post-test knowledge scores (KS) and no significant (>0.05) association was found between post-test KSs when compared to all the demographic variables of students.

Key words : Video assisted teaching module , Obesety,School going children.

Need for study

The World Health Organization has labelled childhood obesity as the most serious public health problem of the twenty first century.[4,5] There has been a dramatic increase in childhood obesity in the past couple of decades and it has become more than doubled in comparison to 1980s. Obesity has reached epidemic.[10]The levels of childhood obesity are increasing at alarming rates in India in the 21st century and it is affecting 5% of the country's population. The data depict that in Odisha 6.9% of male & 8.6% of female were over-weight & obese. A study conducted in urban school Bhubaneswar, Odisha, during Jan-Feb, 2011 depicts 28.63%of children were obese.[2,11,5]

Worldwide obesity and overweight are the fifth leading risk for global deaths. Overweight/obesity is more prevalent in urban area in all age groups[10]. Childhood obesity is associated with a range of life-threatening and debilitating physical health and psychosocial consequences and it is likely to increase the risk of adult obesity. It is also observed that 2.8 million adults die each year as a result of being overweight or obese. Obesity also increase the disease burden such as, 44% of the diabetes burden, 23% of the ischemic heart disease burden and between 7% to 41% of certain cancer burdens are attributable to overweight and obesity. It is also observed that overweight and obesity are linked to more deaths worldwide than underweight. According to WHO (2014) NCDs are estimated to account for 60% of total deaths and the NCDs are mainly related to obesity.[10,6,5]

Obesity in childhood has a significant immediate adverse impact on physical health and psychological wellbeing causing many children to be negatively stereo type and to experience low self esteem and negative self image as well as predicting adult morbidity and mortality due to diabetes , hypertension, asthma, dyslipidaemia, sleep apnoea, non-alcoholic fatty liver disease, orthopaedic problems, depression and poor self esteem.[14,11] Obesity in child hood also causes high blood pressure, heart disease, cancer, and other disorders. Some of the other disorders would include liver disease, early puberty or menarche, eating disorders such as anorexia nervosa and bulimia nervosa, skin infections , asthma and other respiratory problems. Overweight children are more likely to grow up to be overweight adults[9,8]

There are three main causes of childhood obesity. It is identified that they are genetics, overeating and lack of exercise among which overeating and lack of exercise are more common[7,14]. Study conducted in an affluent English medium school of Bhubaneswar reveals that school can play a significant role in enhancing students' achievement and well-being by providing health education and a healthy environment that promotes learning . Health education at school will be more effective.[11]

Objectives:

1. Assess the effectiveness of VATM on knowledge of school going children regarding prevention of obesity .

2. Determine association between the pre-test knowledge scores with the selected demographic variables of school going children regarding prevention of obesity.

HYPOTHESES :

H01 : There will be no significance difference between the pre-test knowledge score and post-test knowledge score of school going children regarding prevention of obesity.

H02: There will be no significance association between the pre-test knowledge score of school going children on prevention of obesity with their selected demographic variables.

Methodology

A pre–experimental design , one group pre and post test design with experimental approach was selected to conduct study on effectiveness of VATM on knowledge of school going children of Project Upper Primary School by using systematic random sampling technique . There were 300 students present during data collection and every 6th children was selected for the study through systematic random sampling technique. A closed ended questionnaire was used to collect the data which had two parts. Part A contains demographic characteristics of school going children and Part-B consists of 30 multiple choice questions pertaining to knowledge about obesity. A VATM was prepared which consists of definition, classification, causes ,assessment, complication and prevention of obesity. The data was collected by the investigator herself through pre test, administering VATM and post test from 04.04.2014 to 11.04.2014 after testing validity & reliability of the tool.

Data Analysis & Interpretation

From the findings of the present study it can be interpreted that highest percentage (60%) of the school going children were male, 60% were in the age group of 12-13 years and 44% had Rs. 5000-7000/- monthly family income. Highest

percentage (92%) of school going children reside in urban area and 88% were non vegetarian. Further, 40% had information through mass media.

Table No-1: Area wise comparison of mean, SD and mean % of pre and post-test Knowledge scores (KS) of school going children regarding prevention of obesity

(N=50)

Area	Max. score	Pre-test			Post-test			Difference in mean %
		Mean	SD	Mean %	Mean	SD	Mean %	
Definition and classification of obesity	6	1.26	.84	21	5.26	.74	87.66	66.66
Causes of obesity	6	1.7	..80	26	50	.88	83.66	57
Assessment of obesity	4	.92	.52	26	316	.75	79	56
Complication of obesity	5	1.52	.92	30.4	3.86	.81	77.2	46.8
Prevention of obesity	9	2.7	1.45	30.22	6.06	.80	67.33	37.11
Overall total	30	8.1	208	27	23.38	.1.71	77.93	50.93

Area wise comparison of mean, SD and mean % of pre-test and post-test KSs show that during post-test the highest mean score (5.26 ± .74) which is 87.66% of the total score was in the area "definition and classification" which was lowest during pre-test (21%). During post test the lowest mean score was 6.06 ±.80 which is 67.33% of total score obtained for the area "prevention of obesity". Overall pre-test mean score was 8.1 ±.96 which is 27% of maximum score depicts poor knowledge whereas it was 23 ± 1.71 during post-test which is 77.93%, showing a difference of 50.93% of maximum score reveal good knowledge. It is also observed that difference between the pre and post-test area wise mean score values vary from 37.11% to 66.66%. Hence, it can be interpreted that teaching module was effective both area wise and overall. (Tab.No. 1)

Percentage wise distribution of overall pre and post-test knowledge shows that during pre-test 16% of school going children had very poor and 84% had poor knowledge regarding prevention of obesity whereas during post-test 24% had very good knowledge and 76% had good knowledge regarding prevention of obesity. Hence it can be interpreted that the module was effective in improving knowledge of school going children regarding prevention of obesity (Fig No.1)

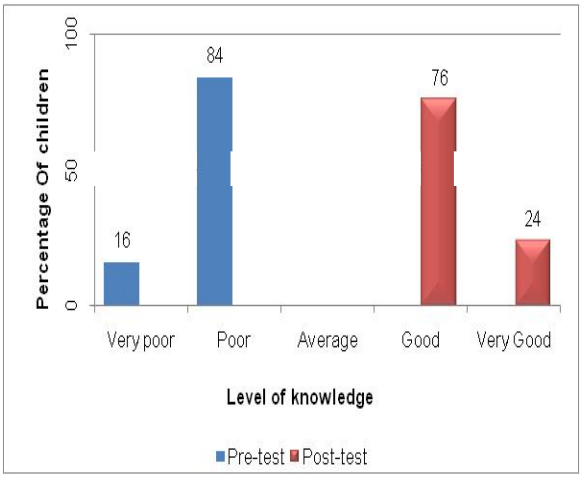
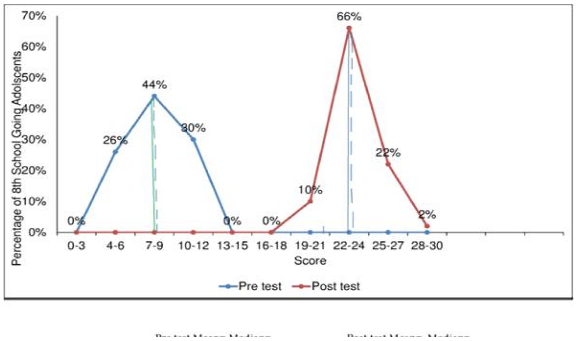


Figure no 1 :Bar diagram showing the comparison between pre and post knowledge score

Line graph drawn to assess the difference between pre and post test KS values shows that the lowest score of pre-test was between 4 to 6 whereas in post-test it was between 28 to 30.Similarly highest score of pre-test was between 7 to 9 whereas during post-test it was between 22 to 24 .The median plotted on the line graph shows that the pre-test mean and median scores were 8.02 and 9 respectively. However during post-test mean and median values were 23.38 and 23, respectively. It shows the effectiveness of video

on prevention of obesity (Fig no-2).



O-give curve drawn to find out the effectiveness of video shows that post test score was higher in entire graph when compared to pre test showing the effectiveness In the pre-test 25th percentile score was 5.3 whereas it was 20.8 for the post-test. The 50th percentile score for the pre-test was 7.2 which is 22.4 for the post-test revealing a difference of 15.2. Similarly 75th percentile score for pre-test was 8.6 which was 23 .2 for the post-test revealing a difference of 14.6. It shows the effectiveness of video on prevention of obesity.

Tab- 2 Paired "t" value of pre and post-test KSs of school going children

Sl. No.	Area	"t" value	Remarks
1	Definition and Classification of obesity	28.57	Highly significance
2	Causes of obesity	23.71	Highly significance
3	Assessment of obesity	16.00	Highly significance
4	Complication of obesity	828	Highly significance
5	Prevention of obesity	15.27	Highly significance

Table value 2.66 df-49, (P value< 0.01).

Paired "t" test calculated to assess the significant difference between pre and post-test KSs shows highly significant difference in all areas of obesity such as definition , categories, causes, assessment, complication & prevention. Thus the difference in mean score values related to the above mentioned areas were true difference. Hence null hypothesis was rejected and statistical hypothesis was accepted (Tab. No. -2).

Table-3 Association between post-test KS with demographic variables of children.

Sl. No.	Demographic variables	Value	Level of significance
1	Sex	0.654	Not significant
2	Age	0.010	Not significant
3	Monthly Income	0.244	Not significant
4	Area of residence	0.006	Not significant
5	Dietary pattern	0.002	Not significant
6	Previous source of information	1.230	Not significant

(P value <0.05) t value 3.84 d.f -1

Chi-square was calculated to find out the association between the post-test KSs of the school going children with their demographic variables regarding prevention of obesity reveals no significant association between the post-test KSs when compared to sex, age, monthly income, area of residence, dietary pattern and previous source of information. Hence the null hypothesis was accepted (Table.No.-3).

Discussion and Summary

The school going children had poor (27%) knowledge before implementation of VATM whereas it increased to 77.93% after implementation of VATM revealing good knowledge which is supported by Titi Xavier Mangalathil et al. the found that 93% of the adolescent students had below average knowledge regarding obesity .[14] Further Chi-square value reveals no significant association between the post-test KSs when compared with all demographic variables which is also supported by the Chi-square value of Titi Xavier Mangalathil et al. (2014) in their study that there is

no significant associations with level of knowledge of adolescents with their selected demographic variables except only 'Heard of obesity"[14]. Further Paired "t" test calculated to assess the significant difference between pre and post-test KS shows highly significant difference in all the areas of obesity prevention which is supported by Juliana Kain et al. 2014 who conducted a study on School-Based Obesity Prevention Intervention in children where there was significant knowledge difference between pre and post test KS of teachers.[8]

Implications

- The content of the VATM will help the nursing professionals working in the hospitals and community to educate the children regarding prevention of obesity.
- School going children can use VATM at home to enhance their knowledge on prevention of obesity.
- The module can also help the school teachers in enhancing their own knowledge and help them to prevent obesity in school children.
- Nurse educator can use video assisted teaching module to educate the peripheral level of school going children to improve their knowledge and motivate them for prevention of obesity.
- The VATM can encourage the nurse researchers to conduct more study on obesity in school and community.

Recommendation

- A similar study can be conducted on larger sample to generalize the study findings.
- Similar study can be conducted with control group.
- A comparative study can be conducted on knowledge of prevention obesity between urban and rural school going children.

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