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"Effect Of Computer Based Teaching Module On Knowledge Level Regarding Healthy Lifestyle Practices Among Adolescent School Going Girls At Kolkata- A Pre-Experimental Study."

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Introduction

Health is wealth but now in this fast and busy life; care of our health is often overlooked. The difficulty is practicing self discipline day in and day out. Our fast food, decreased physical activity and lack of taking care of our personal hygiene don't help the matter called "health". It can truly be a battle but those who can win for them it's a reward. As adolescents develop, they adopt new roles of social responsibility; acquire skills and access opportunities necessary for functioning in adult life. The health and, even more importantly, the knowledge, attitudes and practices of adolescents are regarded as essential factors when predicting the process of epidemiological transition of a population. Nevertheless, during these formative years, adolescents are subject to many influences dominating their internal and external environment. Recognizing the importance of youth during the period of rapid development, urbanization and changing social norms is necessary to make the adolescent school going girls conscious about the important healthy lifestyle practices. This will help prevent the development of many health related problems like-Diabetes, Arthritis, Stroke, Anxiety, Stress, High B.P, Skin infections, Anemia, Obesity and Disability due to ageing process. 1Also, to meet the goal of healthy people by 2010 there is need to make them aware regarding the healthy lifestyle practices.2Statistical report of 1998-2005 shows the maternal mortality rate is 32-40% per 10,000.3 So, if we can educate these girls regarding importance of maintaining healthy lifestyle practices then we can prevent the occurrence of diseases in them as well as we can save the future child as these girls sooner or later are going to become the future mothers.

Objectives:

1 *To determine the knowledge level of adolescent school going girls regarding healthy lifestyle practices.*

2 *To determine the effectiveness of computer based teaching module in terms of gain in knowledge score.*

3 *To find out the association between the knowledge level of adolescent school going girls on healthy lifestyle practices with selected demographic variables like-Age, Standard of education, Socio-economic status, Exposure to mass media, Preparation on health related information.*

Materials and Methods

In this present study one group pre-test post test design was used to evaluate the effect of computer based module on knowledge level regarding healthy lifestyle practices. Forty (40) Adolescent school going girls studying in 8th and 9th standard at M.P. Birla Foundation of Higher secondary school, kolkata in the year 2010 were selected by Non-probability convenience sampling technique. Adolescents school going girls who were present during the time of data collection and willing to participate in the study were selected. The study was delimited to single centre English medium school and data collection time was 4 weeks. To collect the data from samples the Data collection instruments

used were : Tool I – Demographic proforma , Tool II – Self Structured knowledge questionnaire on healthy lifestyle practices. The Content validity of prepared tools along with the blue print, objectives and criteria checklist were given to seven experts. There was 100% agreement for all the items in the tools. The Reliability of the structured knowledge questionnaire was r=0.94 as calculated by Split half method following Spearman Brown prophecy formula.4

Table 1

Majority (85%) of the adolescent school going girls were between 10-14 yrs of age. Almost two third (70%) of the adolescent school going girls were studying in 8th Standard .More than half (65%) of the adolescent school going girls belongs to High Socio-economic status and had moderate exposure to mass-media respectively. Almost two third (70%) of the adolescent school going girls had moderate preparation on health related information.

Table 2

The obtained pre-test mean score was (18.88) whereas the post-test mean score was (24.28).The calculated " t" value was 10 at 0.05 level of significance, was significant greater than the table value indicating that the computer based teaching module was effective in increasing the knowledge of adolescent school going girls regarding healthy lifestyle practices

The table 3 shows that the chi square value computed between the post-test knowledge score of adolescent school going girls and selected demographic variables. Among five variables only one variable is significant at 0.05 levels. i.e. Exposure to mass-media.. Hence, the Knowledge is dependent on exposure to mass-media indicating that this variable is significantly associated with adolescent girl's knowledge on healthy life style practices.

Discussion

Effectiveness of computer based teaching module on health lifestyle practices

The obtained pre-test mean knowledge score was (18.88) whereas the post-test mean knowledge score was (24.28).The calculated "t" value was 10 at 0.05 level of significance indicating that the computer based teaching module was effective.

The present study findings was supported by findings of research conducted by Casazza K. Ciccazza M6 to motivate adolescents to adopt proper nutrition and physical activity behaviors to prevent obesity and chronic diseases by changing their unhealthy behavior. The intervention was conducted in three schools (control, computer-based, and traditional education). Results showed that students who received the computer-based intervention showed increased knowledge ($p < 0.001$), physical activity ($p = 0.001$), self-efficacy ($p < 0.001$), and social support ($p < 0.001$), and decreased meals skipped ($p < 0.001$) and conclusion was made that computer-based group showed more positive behavior changes.

Another pilot project conducted by Moore JB. Pawloski LR. Goldberg P7 which examines the effect of a nutrition education program, Color My Pyramid, on children's nutrition knowledge, self-care practices, activity levels, and nutrition status supports the findings of present study. Using a pretest–posttest, quasi-experimental design, 126 fourth- and fifth-grade students from experimental and control schools are compared. The intervention program incorporates an online component www.MyPyramid.gov, Orem's Self-Care Deficit Nursing Theory, and consists of six classes taught over a 3-month period. Results indicated that the program increased nutrition knowledge in the control group. Furthermore, it increased activity time from pretest to posttest and decreased systolic blood pressure for children in both groups; however, there were no significant differences in BMI percentiles. The findings indicate that Color My Pyramid can be successfully employed in school settings and thus support school nursing practice.

Association of healthy lifestyle practices with selected demographic variables

The present study identified the variables, which might have had influences on the knowledge level of adolescent school going girls. The variables selected for the adolescent school going girls were- Age, Standard of education, Socio-economic status, Exposure to mass-media, preparation on health related information. The study findings showed that only one variable i.e Exposure to mass-media was significantly associated with post-test knowledge score. From this it was evident that Exposure to mass-media has a influence on the knowledge level of adolescent school going girls on healthy lifestyle practices.

The present study was supported by the longitudinal study conducted by Proctor MH, Moore LL,Hood MY, Ellison

RC8 on 106 children from 4 to 11 years to determine the relation between television watching and body fat change in children from preschool to early adolescence. Body mass index (BMI), triceps skin folds, and sum of five skin folds were recorded yearly at annual clinic visits. Results showed that watching T.V was an independent predictor of the change in the child's BMI, triceps, and sum of five skin folds throughout childhood. Its effect was only slightly attenuated by controlling for the baseline body fat, level of physical activity (as measured repeatedly by Caltrac accelerometer), percent of calories from fat, total calorie intake, or the parents' BMI or education. By age 11, children who watched 3.0 h or more of television per day had a mean sum of skin folds of 106.2 mm, compared with a mean sum of skin folds of 76.5 mm for those who watched less than 1.75 h per day (P=0.007). Furthermore, the adverse effect of television viewing was worse for those children who were also sedentary or had a higher-fat diet. And conclusion was made that children who watched the most television during childhood had the greatest increase in body fat over time.

Limitations

The study was conducted among small group of adolescent school going girls in a selected setting. Hence generalization is limited only to the population of adolescent school going girls who are from English medium school and studying in 8th and 9th standard.

The study did not use any control group. Therefore ,there was a possibility of threat to internal validity such as events occurring between the pre-test and post-test sessions, influence of mass-media or other people in the environment on the adolescent school girls knowledge

Selected variable like-Age, Standard of education, Socio-economic status, Exposure to mass- media and Preparation on health related information which could have influenced the knowledge were not under the control of the investigator.

Recommendations

A similar study can be replicated on a sample with different demographic characteristics.

A similar study can be replicated with a control group and using a larger population of the community.

An extensive teaching strategy teaching protocol may be developed in all aspects separately.

A follow up study may be conducted to determine the effectiveness of the computer based teaching module in terms of gain in knowledge in those subjects to whom the teaching is given.

A comparative study can be done with different groups of adolescent girls e.g between rural and urban adolescent girls knowledge on healthy lifestyle practices.

Ethical consideration:

Ethical approval was taken from Institutional Ethical committee of .M. Birla Heart Research center, Kolkata.

Permission was obtained from the School Principal of urban Higher Secondary English Medium school.

Informed written consent was taken from the participants.

Funding

Self Funded

Conclusion

The findings of present study concluded that computer based teaching module was effective strategy for improving the knowledge of children's on healthy lifestyle practices.

Results

Table 1- ***Characteristics of adolescent school going girls by frequency and percentage***

(n=40)

Characteristics	**Frequency (f)**	**Percentage (%)**
1 Age in years		
1.1 10- 14	34	85
1.2 15 -19	06	15
2 Standard of education		
2.1 8^{th}	28	70
2.2 9^{th}	12	30
3 Socio-economic status		
3.1 High	26	65
3.2 Middle	14	35
3.3 Low	0	0
4 Exposure to mass media		
4.1 High	10	25
4.2 Moderate	26	65
4.3 Low	04	10
5Preparation on health related information		
5.1 High	07	17.5
5.2 Moderate	28	70
5.3 Low	05	12.5

Table 2

Mean, Mean difference, Median, Standard deviation and 't' value of pre-test and post-test knowledge score of adolescent school going girls

(n=40)

Knowledge Score	Mean	Mean Difference	Median	S.D	"t"
Pre-test	18.88	5.4	19	3.24	10
Post-test	24.28		25	2.45	

t(39) =2.03[5] at 0.05 level of significance

Table 3

Association of post-test knowledge score of adolescent school going girls and selected demo- graphic variables

(n=40)

Sl No	Variables	Knowledge score		χ^2	df	p value	Significance at 0.05 level
		At or above median (19)	Below median (19)				
1	**Age in years**						
	10 - 14	18	16	0.39	1	3.841	NS
	15 - 19	04	02				
2	**Standard of education**						
	8^{th} class	15	13				
	9^{th} class	07	05	0.078	1	3.841	NS
3	**Socio-economic status**						
	High	16	09				
	Moderate	05	10	1.29	1	3.841	NS
	Low	00	00				
4	**Exposure to mass-media**						
	High	09	01				
	Moderate	11	15	6.68	2	5.991	S*
	Low	02	02				
5	**Preparation on health related information**						
	High	02	04				
	Moderate	16	13	2.40	2	5.991	NS
	Low	04	01				

Significance at 0.05 level , NS=Nothing Significant, S*=Significant