"Effectiveness of Teaching and Text Message based Intervention on Dietary Habits and Physical Activities among Overweight Adolescents "

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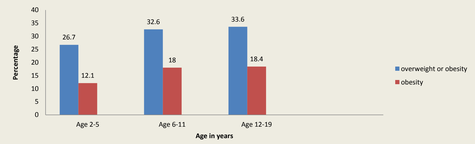
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BACKGROUND

The proportion of adolescents who are overweight or obese is rapidly increasing worldwide. Adolescence is a vulnerable period for the development of obesity and also appears to be a critical period for establishing risk factors for some chronic diseases in adulthood.[1]

The number of overweight or obese infants and young children (aged 0 to 5 years) increased from 32 million globally in 1990 to 42 million in 2013. In the WHO African Region alone, the number of overweight or obese children increased from 4 to 9 million over the same period.[2]

Figure 1: Bar graph showing percentage of overweight and obese children



Source: NHANES, 2009–2010

OBJECTIVES

1) To assess and compare the dietary habits among overweight adolescents before and after teaching and text message based intervention in experimental and comparison group.
2) To assess and compare the physical activities among overweight adolescents before and after teaching and text message based intervention in experimental and comparison group.
3) To determine the relationship between dietary habits and physical activities among overweight adolescents in experimental and comparison group.
4) To determine the association of dietary habits and physical activities among overweight adolescents with their selected variables in experimental and comparison group.

MATERIALS AND METHODS

A quantitative research approach using quasi experimental design (non equivalent control group pre test post test) was undertaken for the study. Fifty nine (59) overweight adolescents in the age group of 13-15 years were selected using purposive sampling technique.

The study was conducted at Maharishi Markandeshwar International School, Mullana (Experimental group) and The S.D. Vidya School, Ambala Cantt (Comparison group). Data was collected by rating scale to assess dietary habits and physical activities among overweight adolescents using paper and pencil (self report) technique.

Reliability of the tool was established by Cronbach's alpha and was found to be 0.76 for dietary habits and 0.74 for physical activities. Time period of the study was from December, 2015 to June, 2017. The Ethical clearance was obtained from Maharishi Markandeshwar University's ethical committee (MMU/IEC/775). Further the guidelines were followed by according to ICMR (India). This was followed by obtaining permission from the concerned authorities from the schools. Before data collection the subjects were informed regarding the objectives of the study. Written assent was taken from the subjects and telephonic consent was taken from the parents. Prior information was given to parents about the text messages to be sent on their cellular phones. They were requested to make their child to read the messages at the same time daily. Subjects were screened in terms of height and weight and after that BMI was calculated. After screening, pre test was taken on the 2nd day in both the groups. Teaching was administered on 2nd day to the experimental group and from the same day text messages were sent to the subjects for 7 days. No intervention was given to the comparison group. After 15th day of intervention post test was taken in both the groups.

RESULTS

The computed chi square value for the selected variables in experimental and comparison group showed that both the groups were homogenous and comparable.

Figure 1: Bar Diagram Showing Post test score of level of Dietary Habits after Administration of Teaching and Text Message Based Intervention

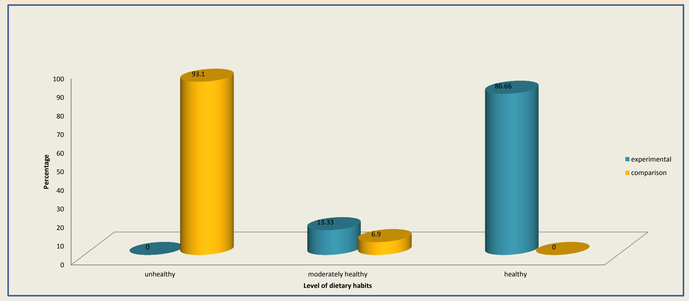
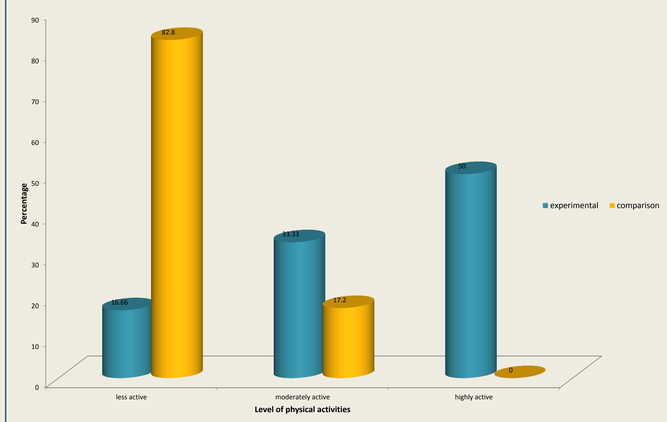


Figure 2: Bar Diagram Showing Post test score of level of Physical Activities after Administration of Teaching and Text Message Based Intervention



The table 1 shows that there was a significant difference between experimental and comparison group in dietary habits and physical activities after teaching and text message based intervention as computed 't' values **19.44** and **8.26** were higher than the tabulated 't' values **(2.00)** at 0.05 level of significance.

Variable	Group	Mean	MD_D	SD_D	SE_{MD}	't' value	p value
Dietary Habits	Experimental (n=30)	29.53					
			16.43	5.97	2.34	19.44	**0.001***
	Comparison (n=29)	13.10					
Physical Activities	Experimental (n=30)	18.66					
			7.59	5.56	0.91	8.26	**0.001***
	Comparison (n=29)	11.07					

The table 2 shows that there was a significant difference between pre test and post test in dietary habits and physical activities in experimental group as calculated 't' values were 19.58, and10.44 , p=0.001 which were higher than the tabulated values (2.05) at 0.05 level of significance.

Variable	Assessment	Mean	M_D	SD_D	SE_{MD}	't' value	p value
Dietary habits	Pre test	13.60					
			15.93	4.46	0.81	19.58	**0.001***
	Post test	29.53					
Physical activities	Pre test	10.80					
			7.86	4.12	0.75	10.44	**0.001***
	Post test	18.66					

The findings also revealed that was a **moderate positive correlation (r=0.61)** between the dietary habits and physical activities of overweight adolescents. There was a significant association found in dietary habits with BMI (p=0.02) in experimental group and age (p=0.05) in comparison group. There was also a significant association found in physical activities with BMI (p=0.001), religion (p=0.013) and father's occupation (p=0.05) in experimental and comparison group respectively .

SUMMARY

In the present study, there was a significant difference at 0.05 level of significance between experimental and comparison group in terms of dietary habits and physical activities after teaching and text message based intervention. These findings were consistent with the other study where they found that the intervention group participants increased exercise time by approximately eight percent (p = 0.03), while the control group's exercise time remained constant. [3]

CONCLUSION

Teaching and text message based intervention was effective in improving the dietary habits among overweight adolescents.

Teaching and text message based intervention was effective in improving the physical activities among overweight adolescents.

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