

Short Communication

EFFECTIVENESS OF A LIFESTYLE MANAGEMENT PROGRAM ON KNOWLEDGE AND LIFESTYLE PRACTICES AMONG ADOLESCENTS

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Abstract :

Increasing incidence of lifestyle disorders among Indians are largely attributed by unhealthy lifestyle practices like poor dietary pattern, inadequate physical activity, smoking, alcohol consumption and stress. Lifestyle modification programs are proved effective in behaviour modification and promotion of healthy lifestyle practices among adolescents. A school based interventional study was conducted among adolescents with the objective to determine the effectiveness of the lifestyle management program in terms of gain in knowledge on lifestyle disorders and change in self-reported lifestyle practices. The study was conducted in two phases. Initially, a baseline data on the lifestyle practices and knowledge on lifestyle disorders was obtained from the adolescents, which was utilized to select the adolescents with poor and average knowledge and unhealthy practices for whom the intervention was implemented. Changes in lifestyle disorder related knowledge and lifestyle practices were tested using a structured knowledge questionnaire and lifestyle assessment scale. After two weeks of the intervention, a post-test was carried out and a significant improvement in knowledge ($Z= 12.39, P = 0.001$) and lifestyle practice ($Z= 5.52, P = 0.001$) were identified. The educational package for lifestyle modification was successful in improving the knowledge on lifestyle diseases and lifestyle practices among adolescents and thereby in prevention of lifestyle disorders.

Keywords : Lifestyle management program, lifestyle practice, knowledge, adolescents.

Introduction :

The current epidemiological transition due to rapid urbanization and globalization in India leads to a great concern on increasing prevalence of Non Communicable Diseases (NCDs). The major risk factors for NCDs are unhealthy diet, physical inactivity, tobacco use, alcohol consumption and stress and there exists an extensive literature supporting that such risk factors are increasing among the adolescents. World Health Organization (WHO) has reported that at least 80% of the premature heart diseases, stroke, type 2 diabetes, and 40% of cancer could

be prevented through healthy diet, regular physical activity and avoidance of tobacco products.^[1]The majority of NCDs can be averted through interventions and policies that reduce these

major risk factors,^[2] and educational programs focusing on lifestyle modification are proved to be effective in the prevention of lifestyle disorders.^[3] Knowledge about healthy food choices, physical activity and healthy habits also can be the predisposing factors for adopting a healthy lifestyle practices.^[4]

The effectiveness of an educative intervention on lifestyle disorders and lifestyle practices of adolescents among selected private Pre-University Colleges of Udupi Taluk, Karnataka was assessed in this study.

Materials and methods :

The study was conducted among adolescents of the age group 15 to 18 years. Five Pre-University Colleges (PUCs) were selected by simple random sampling technique from the list of 27 private PUCs of Udupi Taluk and all the adolescents studying first year pre university course were included in the study. Assent was taken from the adolescents and written informed consent was obtained

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from their parents. The study was approved by the ethical committee of Kasturba Hospital, Manipal. Confidentiality of the information obtained was maintained. The study used a one group pre-test post-test research design and the data was collected using a structured knowledge questionnaire and a life style assessment scale.

Knowledge questionnaire and life style assessment scale:
The data collection instruments were developed by the researcher. Knowledge questionnaire included questions on benefits of healthy lifestyle practices, ill effects of unhealthy lifestyle practices and lifestyle disorders like obesity, hypertension and diabetes mellitus. Each correct answer was scored as 1 and wrong answer as 0. The maximum score possible was 30 and 0 was the minimum possible score. The scores were arbitrarily classified as good knowledge (21 to 30), average knowledge (11 to 20) and poor knowledge (0 to 10). The major areas included in life style assessment scale were dietary practices, physical activity, sleep, tobacco use, alcohol consumption and stress level of the adolescents. It was a four point rating scale with a maximum score of 120 and minimum score of 30. The scores were arbitrarily classified as unhealthy lifestyle (30 to 74) and healthy lifestyle (75 to 120). Both the instruments were validated by experts, pre-tested and ensured for reliability among 20 adolescents.

On day one of the study, a cross sectional survey was conducted among the adolescents of the selected PUCs which provided the baseline data on their lifestyle practices and knowledge on lifestyle disorders. Among the 574 adolescents participated in the baseline survey, 14.5% were identified with good knowledge, 80.8% with average knowledge and 4.7% with poor knowledge. With regard to the lifestyle practices of the adolescents, 90.8% of the adolescents belonged to the category of healthy lifestyle practices and 9.2% to the unhealthy lifestyle practice category.

On day two, the lifestyle management program was administered to those adolescents with unhealthy lifestyle and, poor and average knowledge scores. Among the 574 adolescents who had participated in baseline survey, there

was a sample mortality of 236 adolescents as these adolescents were unable to attend the post-test because of the preparation holidays for their exams. Hence the data obtained from 278 adolescents only was analyzed.

The life style management program was an educative session on information regarding lifestyle diseases, health promoting measures and the ill effects of unhealthy lifestyle practices through structured teaching program using power point slides for one hour. The contents included in the program were meaning of lifestyle; healthy and unhealthy lifestyle; meaning of lifestyle disorders; and meaning, risk factors and prevention of obesity, hypertension and diabetes mellitus.

The post test was administered to 278 adolescents on the 14th day of the intervention. The same knowledge questionnaire and rating scale, used in the baseline survey, were administered to determine the effectiveness of the awareness program. Adolescents were not pre-informed about the post-test to avoid any bias.

SPSS version 16 was used for data analysis. Normality of the data was tested (by Kolmogorov Smirnov test) and was not normally distributed. Comparison was made between pre- and post- intervention knowledge and practice scores of adolescents using Wilcoxon sign rank test. Item wise analysis was also computed using frequency and percentage for the pre- and post- intervention lifestyle assessment scores to determine the effectiveness of the program in the lifestyle practice of adolescents. The level of significance, P value was considered statistically significant at the level of 0.05.

Results :

Improvement in knowledge and lifestyle practice:
Following the intervention, the knowledge and practice scores of adolescents improved significantly. A significant difference was identified in the median pre-test and post-test knowledge scores of adolescents ($Z = 12.39, P = 0.001$) and thus lifestyle management program was proved to be effective in improving the knowledge on lifestyle diseases among adolescents.

The program was also effective in improving the lifestyle practice scores of adolescents ($Z= 5.52, P = 0.001$). The percentage of adolescents consuming three meals daily had increased from 53.2% to 56.8%, daily fried food consumption decreased from 10.4% to 8.6%, 5.1% of the adolescents has started with daily fruit consumption, fast food consumption on all the 7 days a week reduced from 11.5% to 8.6%. Daily tobacco use had decreased in 1.1% of

the adolescents. 3.3% of the adolescents reported that they started engaging in physical activity for at least 30 minutes daily after the intervention. Also about 3.9% of adolescents engaged in flexibility activities on all 7 days/week post-intervention. A detailed item wise comparison of pre-test and post-test lifestyle practice scores of adolescents in terms of percentage is given in Table 1.

Table1. : Item wise comparison of pre-test and post-test lifestyle practice scores of adolescents in terms of percentage (n = 278)

Item	Pre-test percentage				Post-test percentage			
	[^] A	['] S	[#] R	[§] N	[^] A	['] S	[#] R	[§] N
Eating three meals daily	53.2	32	7.9	6.8	56.8	29.9	7.9	5.4
Fried foods consumption	10.4	53.2	34.2	2.2	8.6	58.7	31.7	1.1
Eating fruits	39.9	52.2	7.2	0.7	45	45.7	8.3	1.1
Soft drinks intake	11.2	42.4	41.7	4.7	10.8	46.8	37.4	5.1
Fast foods consumption	11.5	48.6	35.3	4.7	8.6	47.8	40.7	2.9
Eating out at hotels	6.1	28.1	52.5	13.3	5.4	30.9	51.9	12.2
Consumption of sweets	25.9	50.7	21.2	2.2	25.9	46.8	23.4	0.4
Snacking between meals	8.3	18.7	23.4	49.6	7.2	18.7	26.3	47.8
Time spent for sedentary activities	28.4	47.1	18	6.5	31.7	42.8	20.1	5.4
Walk, or use cycle or staircase	34.2	38.5	17.6	9.7	34.9	37.8	19.1	8.3
Physical activity for 30 min	40.6	37.4	16.9	5	43.9	37.5	14	4.7
Time spent for sports	39.6	35.3	17.6	7.6	40.7	32.7	19.4	7.2
Flexibility activities	20.9	33.8	32.8	12.9	24.8	36.4	27	11.9
Strength activities	24.8	32.7	26.3	16.2	25.6	29.5	27.7	17.3
Tobacco use	2.9	6.8	4	86.3	1.8	6.5	4.7	87.1
Alcohol consumption	3.2	5.8	6.8	84.2	3.2	5.8	6.8	84.2
Sleep for minimum of 6-8 hours a day	66.2	20.5	9.7	3.6	67.7	17.6	11.2	3.6
Feeling of rejection by parent	12.6	9	14	64.4	10.8	7.9	13.7	67.6
Face economic difficulty in family	15.1	27.0	27.3	30.6	13.7	21.9	28.8	35.6
Feeling of rejection by friends	8.3	18	16.5	57.2	6.5	15.1	19.8	58.6
Conflicts in family	6.5	20.1	29.9	33.5	4.7	16.9	27	51.4
Stressed by academic matters	14.7	29.1	28.1	28.1	14.4	28.4	24.5	32.7

*Always (7days/week), Sometimes (4 to 6 days/week), [#]Rarely (1 to 3 days/week), [§]Never (Not at all)

Discussion :

Lifestyle modification programs are effective in behavior modification of the adolescents at the school level ^[3] as identified by the present study. There exists an extensive literature supporting the effectiveness of long term intervention programs in promoting healthy lifestyle among children and adolescents.^[3,5] At the same time, it is notable that even lifestyle management programs of shorter duration as employed in the present study can make an impact on the lifestyle of adolescents.

Conclusion :

Educational interventions are effective in improving the knowledge of adolescents regarding lifestyle practices and lifestyle disorders, as well as modifying their lifestyle practices. Since schools have been identified as an important setting in imparting knowledge on health promoting lifestyle practices and lifestyle disorders, initiatives are to be taken at school level including curriculum modification and conducting lifestyle modification programs so that younger generation are protected from contracting lifestyle disorders in their future life.

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