KNOWLEDGE ASSESSMENT ABOUT LIFESTYLE DISEASES AMONGST THE SCHOOL GOING ADOLESCENTS OF DELHI

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ABSTRACT

Objective: This study aims to assess the awareness about lifestyle diseases amongst the school going adolescents of different Gov. Schools of Delhi

Material and Methods: An interventional, quasi experimental pre-post design study was conducted in two Govt. schools of Delhi; Simple randomization technique was adopted to select the school from a list of school from west zone. Total number of students enrolled in the study was 204 at the time of Pre-test out of which 15 were drop outs and 189 students completed the study and was considered as the sample size. A self-designed questionnaire was used to assess the awareness about the lifestyle diseases.

Results: The study highlights the knowledge of adolescents about different lifestyle diseases and the effectiveness of the education program for improving the knowledge on lifestyle diseases among adolescents and thereby in prevention of lifestyle disorders.

Conclusion: School based interventions are required to improve the knowledge about lifestyle diseases in order to prevent these diseases correct practices can also be adopted.

Keywords: Lifestyle Diseases, Adolescents, Healthy lifestyle habits

BACKGROUND OF THE STUDY

Changing environment and lifestyle have a tremendous impact on human life, According to WHO as the world's population ages, gets richer, smoke more and drive more, then in next 20 years the burden of non-communicable diseases will become much higher in comparison to the infectious diseases (Mcneil, 2008).

Long before it was thought that these diseases are a threat for developed countries, but an increase prevalence of it can be seen in developing countries too. According to WHO 1999 reports in India, deaths from non-communicable causes will project to almost double from 4.5 million in 1998 to 8 million a year in 2020. (WHO, 1999)

The Global Status Report on Non-communicable Diseases 2010 is the first report on the worldwide epidemic of cardiovascular diseases, cancer, diabetes and chronic respiratory diseases, also mentioning out the risk factors and determinants of the diseases involved. It reports that 38 million out of 56 million global deaths in 2012 were due to the non-communicable diseases (WHO, 2010).

As per WHO Adolescent are often thought of a healthy group, but many of them die due to accidents. Suicide and other illnesses that is preventable. Many serious diseases in adulthood have their roots in adolescents. Mainly due to adoption of unhealthy living habits like Unhealthy diet, use of Tobacco, Smoking and anxiety leading to illness or premature deaths (Lule E, 2017).

Childhood obesity and overweight has become an epidemic globally. Person with obesity and overweight are at high risk of hypertension, type 2 Diabetes, coronary artery diseases, congestive heart failure, stroke, gout, Osteo-arthritis, respiratory problems, pregnancy complication, poor reproductive health and psychological disorders (Haider, et al., 2009)**.**

It has been shown in various studies that the prevalence of risk factors for non-communicable diseases in childhood and adolescence bears significant tendency towards development of disease in adulthood. (McCarron, et al., 2000) (Whitaker, et al., 1997) (Kurpad, et al., 2004)**.** Numerous studies had shown that providing education about risk factors or through primary prevention of these disorders has better benefits when compared to secondary prevention for cardio vascular mortality as well as morbidity, Therefore, Intervening an education programme at school level supposed to be a better step for the prevention of non-communicable diseases, school can be considered as a priority setting to target adolescents because it offers considerable opportunities for prevention. (Sudhakar, 2016)

An interventional study was conducted in two private schools of Delhi, located in west and south west zone of Delhi, Simple randomization technique was adopted to select the school from a list of school from west zone. 9th class Adolescent students had been selected for the study as Sample. A self-designed questionnaire was used to assess the awareness levels amongst the school children about different lifestyle diseases. The specific scores were given to responses of various questions, and data was analysed by Instat, Gpad Software. A total of participants were included.

Therefore, this study was undertaken to assess the lifestyles knowledge of school going children, their awareness pertaining to the disease and its risk factors and their preferences in light of this knowledge.

AIM OF THE STUDY:

To assess the knowledge about lifestyle diseases amongst the school going adolescent of different Schools of Delhi.

An interventional, quasi experimental pre-post design study was conducted in two Govt. school and two Private Schools of Delhi, located in west and south west zone of Delhi, Simple randomization technique was adopted to select the school from a list of school from west zone, about 4000 students were there in the Government schools of Delhi, 9th class Adolescent students had been selected for the study as Sample.

Total number of students after obtaining consent and assent forms enrolled in the study was 204. And were considered as th at the time of pretest out of which 15 were drop outs and 189 students completed the study and was considered as the sample size.

Study Tool

Data collection tool was comprised of two parts:-

Part 1: Collection of demographic data from the students comprising of age, gender, education of father, education of mother, occupation of father, occupation of mother, family type, family income, place of residence and source of information

Part 2: A self-designed questionnaire was used to assess the awareness about the lifestyle diseases. The Knowledge questionnaire included questions on benefits of healthy lifestyle, lifestyle disorders like obesity, hypertension and diabetes mellitus. Each correct answer was scored as 1 and wrong answer as 0. The scores were arbitrarily classified as good knowledge (10 to 12), average knowledge (7 to 9) and poor knowledge (0 to 6)

Ethical Consideration

As the subjects of the study were under 18, the head of the institution or the student's counsellor was requested to give their informed consent to get the information The Written consent was taken from Parent/ Guardian of the students and assent has been taken by students before participating them in the study. . Students were explained the purpose of the study and instructions to respond to the questionnaire were given, individual confidentiality of students was ensured. After getting the information students were told about the benefits of healthy lifestyles.

RESULTS AND DISCUSSION

Following the intervention, the knowledge scores of adolescents improved significantly. A significant difference was identified in the median pre-test and post-test knowledge scores of adolescents and thus lifestyle management program was proved to be effective in improving the knowledge on lifestyle diseases among adolescents.

Table.1 If Life-Style diseases are one of the leading causes of death in the world

Life-Style diseases are one of the leading causes of death in the world		
	pre-test %	post-test %
Yes	59.26	76.19
No	16.93	11.11
Don't Know	23.81	12.70

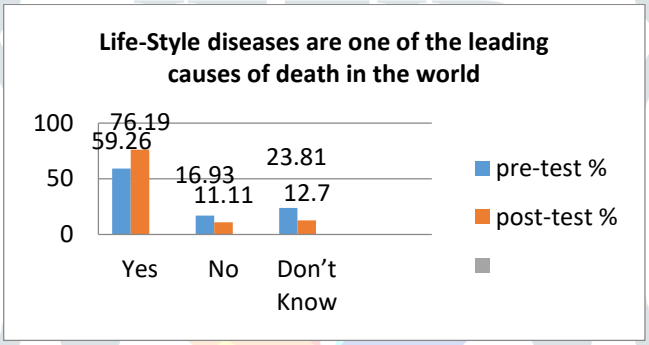

Figure 1

Pre-test assessment showed that 59.2% respondents had knowledge that lifestyle diseases are one of the major causes of death in world, whereas in the post assessment 76.19% respondents had knowledge. Around half of the students were aware about the threat poses by such diseases in the world proving that there is a urgent need to educate and aware them about such diseases.

Table.2 Distribution of respondents by their knowledge on "if Lifestyle diseases occur in old age

If Lifestyle diseases occur in old age		
	Pre-test%	Post-test %
Yes	21.16	11.11
No	67.20	84.66
Don't Know	11.64	4.23

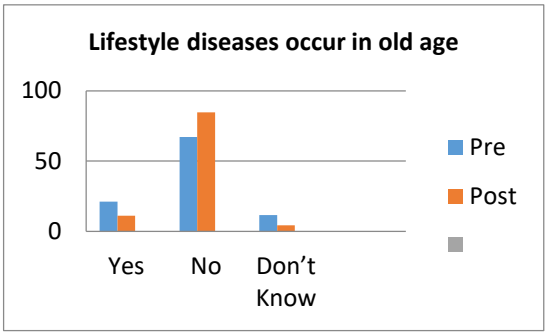

Figure 2

In, pre-test assessment 67.2% respondents had knowledge that lifestyle diseases doesn't occur only in old age, after teaching Program the knowledge of respondent raised to 84.6%

Table.3 Distribution of respondents by their knowledge on "if tobacco intake leads to cancer

Tobacco intake leads to cancer		
	Pre-test%	Post-test%
Yes	95.77	98.41
No	3.17	1.59
Don't Know	1.06	0.00

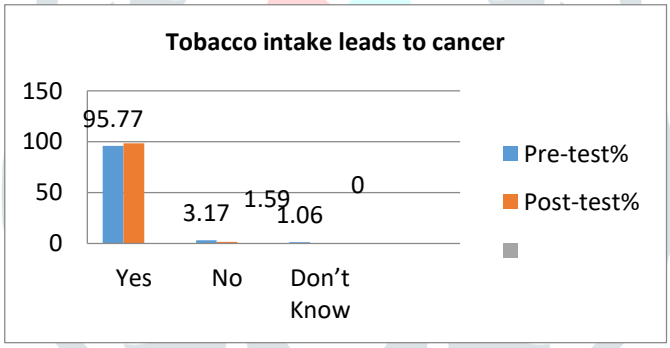

Figure 3

It was found that 95.7% adolescent in the pre teaching assessment and 98.4% respondents, after teaching Program had knowledge about the harmful effect of tobacco consumption .Similar results were found in a study conducted by Ali, et al., where 94% of the study sample indicated that smoking could cause serious illnesses. The study also indicated, that smoking is related to major chronic diseases, especially lung cancer and heart diseases (Ali, et al., 2010)**.**

Table.4 Distribution of respondents by their knowledge on "diabetes is caused due to"

Diabetes is a condition of:		
	Pre-test %	Post-test%
High level of sugar	78.84	92.59
Low level of sugar	7.41	2.65
Don't Know	8.99	4.76
Any other	4.76	0.00

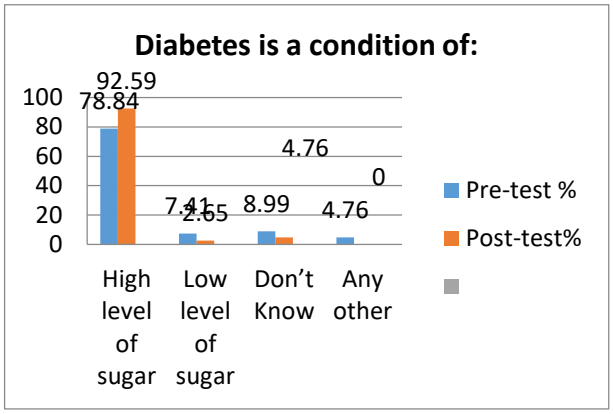

Figure 4

In the pre teaching assessment 78.8% of the respondents considered diabetes due to high sugar level in blood, after teaching Program 92.5% considered diabetes due to high sugar level in blood which was in accordance with the study conducted by Mounica. Bollu 2015 and showed similar results where 64%of the respondents had knowledge about the cause of diabetes (Mounica, 2015).

Table.5 Distribution of respondents by their knowledge on "Hypertension is caused due to"

Hypertension is condition when		
	Pre-test%	Post-test%
High Blood pressure	59.79	81.48
Low Blood pressure	15.34	8.99
Don't Know	17.46	8.47
Any other	7.41	1.06

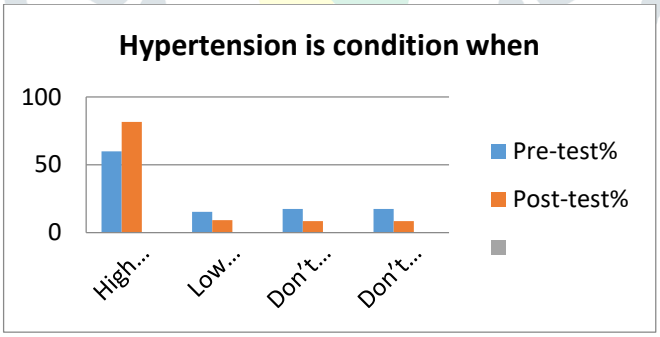

Figure 5

In the pre teaching assessment 59.7% respondents considered Hypertension is caused due to high blood pressure 15.3%considered it due to low blood pressure. A KAP study conducted over the general population of Lucknow by Bhatia et. al., showed that 88.6% of the population has knowledge about the cause for hypertension. (Bhatia, et al., 2015). Another KAP study conducted by Nair et al., showed that. Majority of the subjects had heard about hypertension (65.3% respectively) but only 15.4% had knowledge about its cause. (Nair, et al., 2015). Kim et. al., 2015 conducted a study to determine the association of lifestyle factors with hypertension in Korean adults, and found that mental stress was significantly associated with hypertension among the Korean adults, regardless of age or gender. (Kim, et al., 2015)

Table.6 Distribution of respondent's knowledge that "reduced oxygen or nutrient supply may lead to stroke"

If brain oxygen or nutrient supply gets reduced, it may lead to stroke		
	Pre-test%	Post-test%
Yes	41.27	86.77
No	14.81	3.70
Don't Know	43.92	9.52

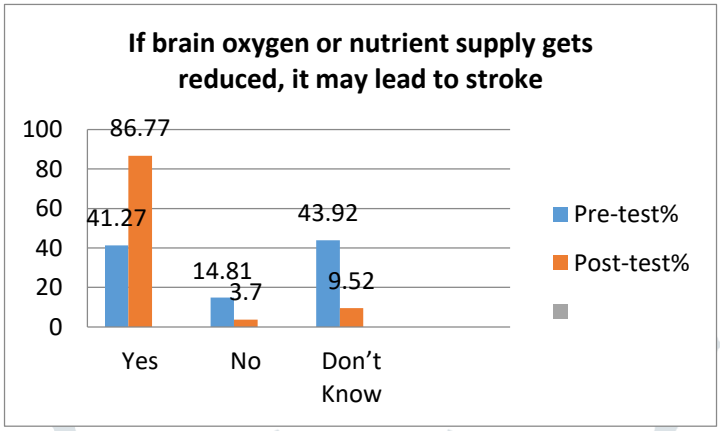

Figure 6

In the pre teaching assessment 41.2% respondents considered that reduced oxygen supply to brain may lead to stroke 14.8% did not consider it and 43.9% did not have any knowledge, after teaching Program 86.7% considered that reduced oxygen supply to brain may lead to stroke 3.7% were against and 9.5% did not have any knowledge. A KAP study on stroke, conducted by Thapa et. al., among high school students in Nepal showed that 71% of the students has heard about stroke but only 40% of them knew that it is a disease of brain, some misconceptions were widely spread among the students, that stroke is a contagious disease (7.4%) and the result of an ancestors' sin (10.3%). It is therefore necessary to promote educational program about stroke to improve the knowledge of its population and to come out of the prevailing misconception. (Thapa, et al., 2016)

Table.7 Distribution of respondents by their knowledge that unhealthy and sedentary way of living may lead to obesity.

Do unhealthy diet and sedentary lifestyle cause obesity?		
	Pre-test%	Post-test%
Yes	66.67	91.53
No	24.87	6.88
Don't Know	8.47	1.59

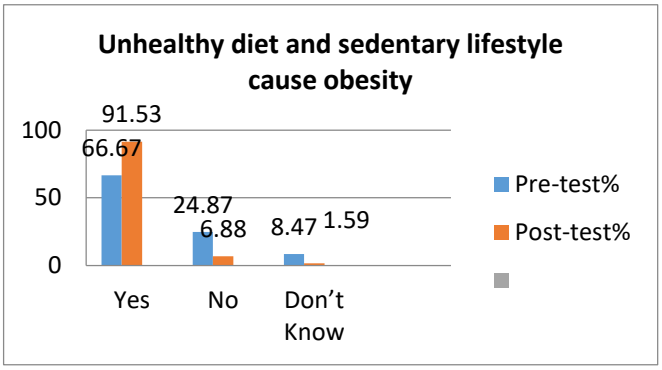

Figure 7

In pre-test assessment 66.6% had knowledge that sedentary way of living may lead to obesity, after teaching Program91.5% considered obesity may results due to sedentary way of living. In a KAP study conducted by Jagadeesan M. et. al, among engineering college students showed that adequate physical activity can prevent obesity (70%). (Jagadeesan, et al., 2017) Similar results found in a study conducted by Shrivastava et al,that regular exercise (77.5%), then dietary modification and meditation (53.43%)are the common factors for prevention of obesity. (Shrivastava, et al., 2013)A good percentage of medical students (53.43%) also had knowledge that exercise helps in prevention of obesity and for weight control. (Ali, et al., 2017)

Table.8 Distribution of respondents by their knowledge on Tobacco Smoking may lead to lung diseases

Do you know Tobacco Smoking lead to Lung diseases		
	Pre-test%	Post-test%
Yes	88.89	97.35
No	6.88	1.59
Don't Know	4.23	1.06

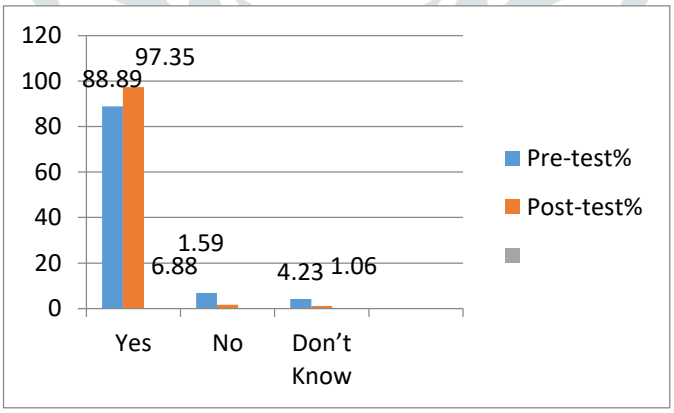

Figure 8

In pre-test assessment 88.8% had knowledge that Tobacco Smoking may lead to lung diseases, 6.8% were against this, after teaching Program97.3% considered that Tobacco Smoking may lead to lung diseases. A cross-sectional survey by Xianglong , et also showed that more than 90% students had knowledge that smoking can cause lung cancer. Most people had knowledge about the harms done by smoking, but had no information what it exactly harms. (Xianglong , et al., 2016)

Table.9 Distribution of respondents by their knowledge on "If feeling of rejection or ignorance by friends and family may lead to depression

Do the feeling of rejection or ignorance by the friends or family cause depression		
	Pre-test%	Post-test%
Yes	51.32	73.02
No	40.74	20.11
Don't Know	7.94	6.88

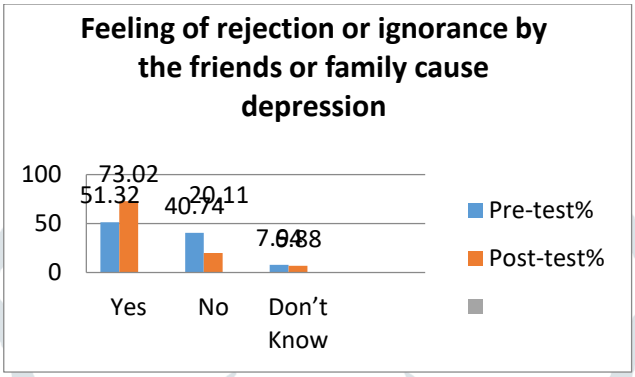

Figure 9

In pre-teaching assessment 51.3% respondent had knowledge that feeling of rejection or ignorance may lead to depression, after teaching programme 73% respondents had knowledge that feeling of rejection or ignorance may lead to depression. A study Abrams et al. (2011) over 79 adolescents aged 13–14, also concludes that Rejection worsened mood and increased distress. Rejection affected adolescents' feelings of belonging more than children's' or adults'

Table.10 Distribution of respondents by their knowledge on "Lifestyle diseases are genetic in nature

All life-style diseases are genetic in nature		
	Pre-test%	Post-test%
Yes	48.68	40.74
No	37.04	46.56
Don't Know	14.29	12.70

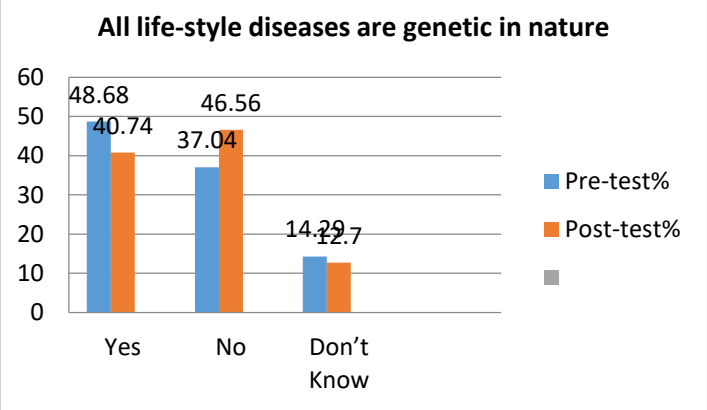

Figure 10

In pre teaching assessment 37% respondents considered that all lifestyle diseases are not genetic in nature, after teaching program 46.5% respondent considered that all lifestyle diseases are not genetic in nature (Rappaport, 2016)

Table.11 Does the consumption of fried/ oily food affect the liver or heart?

Consumption of fried/ oily food affect the liver or heart		
	Pre-test%	Post-test%
Yes	84.66	93.65
No	10.58	2.65
Don't Know	4.76	3.70

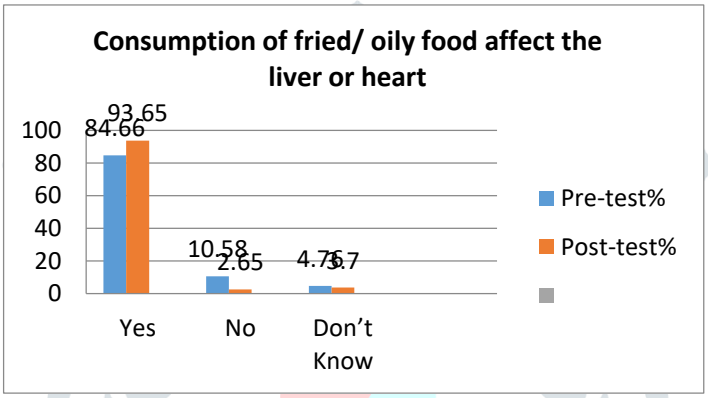

Figure 11

In pre teaching assessment majority of respondents 84.6% had knowledge that consumption of fried and oily food leads to heart problems, after teaching Program knowledge of the respondent raised to 93.6%. A similar study conducted by yadav and Wagle, 2012 showed similar results that high cholesterol diet (87.5%) is a major risk factor for heart diseases (Yadav, et al., 2012).

Table.12 Do you know involving in physical activities helps to reduce the chances of lifestyle diseases?

Involving in physical activities helps to reduce the chances of lifestyle diseases		
	Pre-test%	Post-test %
Yes	79.37	89.95
No	18.52	7.41
Don't Know	2.12	2.65

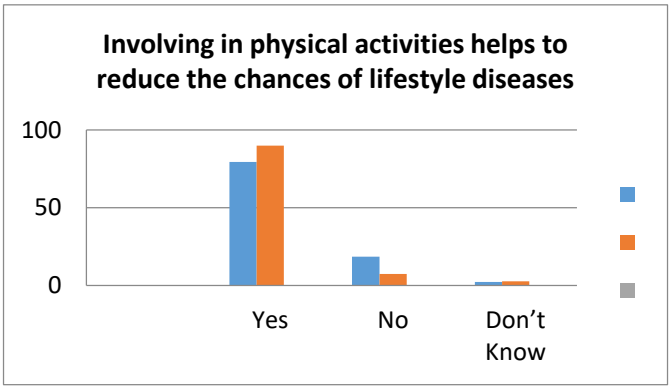

Figure 12

In pre teaching assessment 79.3% respondents consider involving in physical activities helps to reduce the chances of lifestyle disease, After teaching Program knowledge of the respondent raised to 89.9%, A recent analysis about the worldwide burden of disease estimated that physical inactivity was responsible for 6% of the incidence of coronary heart disease, 7% of diabetes type 2, 10% of breast cancer, and 10% of colon cancer. The study concludes that if physical inactivity decreased by 25% then more than 1.3 million deaths could be averted every year (Mahtani, et al., 2013)

Overall Knowledge Assessment In The Pre And Post Test

Table. 13 Mean Score of the knowledge of School of Delhi

Mean Knowledge Score of Schools				P value
Parameters	**Pre**	**Post**	**Difference**	
Mean	8.090	10.14	-2.053	
Std. Deviation	2.049	1.580	2.306	P value is - <0.0001
Std. Error	0.1491	0.1149	0.1677	
Minimum	1	4	-9	Extremely significant
Maximum	12	12	3	

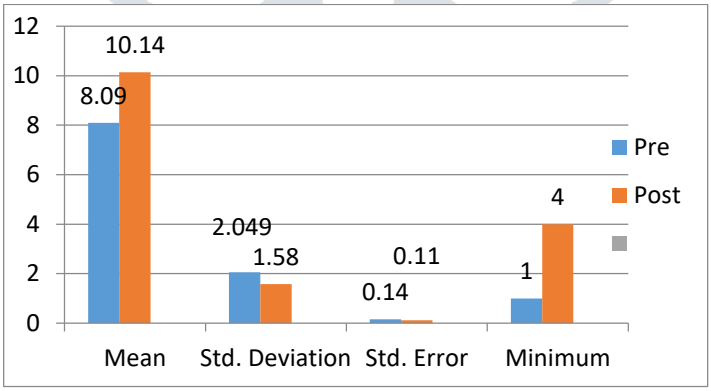

Figure 13

*P value is calculated from Wilcoxon matched pairs signed rank test and thus proved the effectiveness of the education program in escalating the knowledge of the adolescents about certain lifestyle diseases.

CONCLUSION:

The study suggests a significant impact of the education program amongst the adolescents in order to raise their knowledge about lifestyle diseases and the risk factor related to them. The study recommends promotive and supportive environment for strengthening student based interventions, as a small step towards targeting the risk factor for such diseases. School based interventions could be of great value to reduce the burdens of such diseases. Effective implementation of lifestyle modifications behavior strategy atv school level like intake of healthy diet, avoidance of high caloric foods, promoting physical activity as well as proper rest help in preventing future complications as a part of primary preventive.

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