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# A study to assess the effectiveness of structured teaching programme on knowledge regarding healthy lifestyle to prevent cardiovascular diseases among adolescents in a selected school, Agartala

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**Abstract**
**Background:** Cardiovascular disease is an umbrella term used for all conditions that affect the heart and blood vessels. The younger population is often unaware that they may be at risk and may fail to take the appropriate actions that could save their lives.
**Materials and Methods:** An Pre experimental study was conducted to find out the effectiveness of structured teaching programme on knowledge regarding healthy lifestyle to prevent cardiovascular disease among adolescents. On 1st day pretest was done by using structured questionnaire and on same day structured teaching programme was conducted for the adolescents regarding how to maintain a good and healthy life style and how we can prevent cardiovascular diseases. On 8th day posttest was taken.
**Result:** It has been found that the majority of adolescents have inadequate knowledge regarding how healthy lifestyle can be maintained and how we prevent cardiovascular diseases. In pretest 93% adolescents had inadequate knowledge, after structured teaching programme in posttest 72% adolescents have adequate knowledge regarding healthy life style to prevent cardiovascular diseases. The mean difference of pre-test and post-test knowledge score was statistically significant (t100= 19.23 which was higher than tabulated 't' value 1.98 at 0.05 level of significance)
**Conclusion:** The Structured Teaching Programme was effective method of imparting knowledge to adolescents.

**Keywords:** effectiveness, knowledge, structured teaching programme, adolescents, healthy lifestyle, cardiovascular diseases, prevention

## Introduction

**"we cannot change our genes or gender, but we can definitely modify our lifestyle thereby protecting our self from diseases."**

Cardiovascular diseases generally refer to conditions that involve narrowed or blocked blood vessels that can lead to a heart attack, chest pain or stroke. Some of the others heart diseases, such as those that affect your heart muscle, valves or rhythm, also are considered forms of heart disease [1].

With the advancement in the society along with scientific and technological progress, there has been a dramatic shift in the way today human beings are leading their lives which is sometimes referred as modern way of living. With modern medical science and technological progress, there has been improvement in sanitation and hygiene, prevention of diseases with vaccination and treatment of infections with antibiotics. However, in these changes of living and with progress in modern science and technology human beings have eliminated certain forms of diseases but in this transition of improvement in living and increase in life expectancy they bought in others, the so-called lifestyle diseases which are also known as non-communicable diseases. WHO has recognized diabetes, cardiovascular diseases and stroke, cancer and chronic lung disease as major non-communicable diseases [2].

One of the biggest contributors to these statistics is a lack of commitment to a heart healthy lifestyle. Our lifestyle is only our best defense against heart disease and stroke, it's also your responsibility [3].

By living a healthy lifestyle, we can help keep blood pressure, cholesterol, and sugar normal and lower the risk for heart disease and heart attack. A healthy lifestyle includes-eating a healthy diet, maintaining a healthy weight, getting enough physical activity, not smoking or using other forms of tobacco, limiting alcohol use [4].

WHO reports Global atlas on cardiovascular disease prevention and control states that cardiovascular diseases are the leading cause of death and disability the world. WHO also reported that death from congestive heart disease in India shall double in both men and women from the current seven point seven and five point five million respectively. Although a large proportion of cardiovascular diseases is preventable, they continue to rise mainly because preventive measures are inadequate. Because of the changing lifestyle patterns the chance of getting cardiovascular disease among younger adults of the age group 20-40 are increasing tremendously. WHO has years 2000 to 2020 death from congestive heart disease in India shall double in both men and women from the current seven point seven and five point five million respectively [5].

**Methodology**
Research methodology is a systematic way to solve there search problems.
A pre- experimental one group pre-test post-test designed study was adopted to assess the effectiveness of structured teaching programme regarding healthy lifestyle to prevent cardiovascular diseases.

**Research approach**
Quantitative evaluative research approach was used for this study.

**Research Design**
Research design adopted was pre-experimental one group pre-test post-test design.

**Schematic presentation of research design.**

**Table 1**

| Pretest | Intervention | Posttest |
|---|---|---|
| $O_1$ | X | $O_2$ |

**Keys**
$O_1$-Pre-test
X-STP regarding healthy lifestyle to prevent cardiovascular diseases
$O_2$-Post-test

**Variables**
**Independent variable:** For the present study, independent variable was Structured teaching programme.
**Dependent variable:** structure Knowledge regarding healthy life style to prevent cardiovascular diseases among adolescent.
**Demographic variables:** In this study the demographic variables were age in years, gender, class, educational qualification of the parents, income of the family, previous knowledge about cardiovascular disease, source of information.
**Setting of the study:** Narsingarh Higher Secondary School, Narsingarh, Agartala, Tripura West.
**Population:** Adolescents studying in $11^{th}$and $12^{th}$ standards.
**Sample:** Who are studying in $11^{th}$ and $12^{th}$ standards in Narsingarh Higher Secondary school, Narsingarh, Agartala, West Tripura.
**Sampling technique:** In this study non- probability purposive sampling technique was used to select the sample.
**Inclusion criteria:** Students studying in $11^{th}$ to $12^{th}$ standard in Narsingarh Higher Secondary school
- Students those who were willing to participate in the research study.
- Students those were available at the time of data collection.

**Analysis and Interpretation**
The result were computed using descriptive and inferential statistic based on the hypothesis and objective of the study.
Analysis of data based on the objective of the study

**Objectives of the study**
- To assess the knowledge regarding healthy lifestyle to prevent cardiovascular diseases among adolescents.
- To assess the effectiveness of planned teaching program on knowledge regarding healthy lifestyle to prevent cardiovascular diseases among adolescents.
- To find out the association between pretest level of knowledge regarding healthy lifestyle to prevent cardiovascular diseases among adolescents with their selected demographic variables.

The substantive summary of the analysis was under the following sections:
**Section 1:** Description of socio demographic variables of adolescents.
**Section 2:** Assessment of knowledge regarding healthy lifestyle to prevent cardiovascular diseases among adolescent before and after administration of structure teaching programme.
**Section 3:** Effectiveness of structure teaching programme on knowledge regarding healthy lifestyle to prevent cardiovascular diseases.
**Section 4:** Association between knowledge regarding healthy lifestyle to prevent cardiovascular diseases with selected demographic variables of adolescents in selected school, Agartala.

**Section 1**
Description of socio demographic variables of adolescents.

**Table 2**

| Sl no | Demographic variables | Category | Frequency | Percentage |
|---|---|---|---|---|
| 1 | Age | 15-16 year | 28 | 28% |
| | | 17-18 year | 72 | 72% |
| 2. | Gender | Male | 54 | 54% |
| | | Female | 46 | 46% |
| 3. | Class | XI | 31 | 31% |
| | | XII | 69 | 69% |
| 4. | Educational qualification of the parents | Illiterate | 2 | 2% |
| | | Primary education | 55 | 55% |
| | | Secondary education | 40 | 40% |
| | | Graduate and above | 3 | 3% |
| 5. | Family Income | Less than 5000 | 3 | 3% |
| | | 5001-10000 | 45 | 45% |
| | | 10001-20000 | 47 | 47% |
| | | 20001-80000 | 5 | 5% |
| | | 80001or above | 0 | 0% |
| 6. | Previous knowledge about cardiovascular diseases | Yes | 86 | 86% |
| | | No | 14 | 14% |
| 7. | Source of information | Health worker | 41 | 41% |
| | | Media | 3 | 3% |
| | | Family member | 47 | 47% |
| | | Teacher | 9 | 9% |
| | | others | 0 | 0% |

Table 2 showed that frequency and percentage distribution of selected demographic variables of adolescents. Majority of 72% of the subject belongs to 17-18 years of age, Majority of 54% of adolescents belongs to male gender. Majority of 61% are studying in class xii. 55% parents had completed primary education. 47% of the subject had family income between 10001-20001 rupees. In relation to Previous knowledge 86% of the subject were having previous knowledge regarding healthy lifestyle to prevent cardiovascular diseases. About 47% of the subject got the information from the family member.

**Section 2**

Assessment of knowledge regarding healthy lifestyle to prevent cardiovascular diseases among adolescent before and after administration of structure teaching programme.

**N=100**

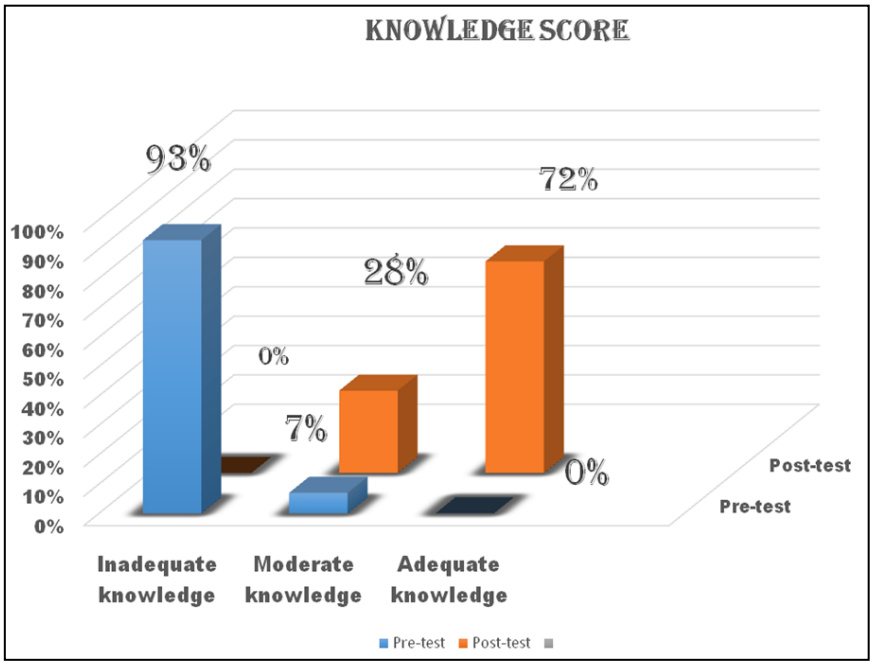


**Fig 1**

Fig 1 represents the frequency and percentage distribution of adolescents according to level of knowledge before the structure teaching programme. A majority 93% (93) of the adolescents had inadequate knowledge and rest of 7% (7) had moderate knowledge before the structure teaching programme.
After the structure teaching programme. A majority 72% (72) of the adolescents had adequate knowledge and 28% (28) had moderate knowledge after the structure teaching programme.

**Table 3**

**N=100**

| SI. No. | Knowledge | Max Score | Range | Mean | SD | Mean % |
|---|---|---|---|---|---|---|
| 1. | Pre test | 16 | 5-16 | 8.9 | 2.3 | 27.64%. |
| 2. | Post test | 28 | 18-28 | 23.19 | 2.9 | 72.26% |

Table 3 showed that in the pre-test the range was 5-16, mean was 8.9, SD was 2.3 and mean percentage was 27.64%. post-test range was 18-28, mean was 23.19, SD was 2.9 and mean percentage was 72.26.

**Section 3**
Effectiveness of structure teaching programme on knowledge regarding healthy lifestyle to prevent cardiovascular diseases.

**Table 4**

**N=100**

| Paired 't' test | | | | |
|---|---|---|---|---|
| **Mean difference** | **Standard deviation** | **$t_{cal}$ value** | **df** | **$t_{tab}$ value** |
| 14.29 | 0.6 | 19.23 | 99 | 1.98 |

The Table 4 revealed that the calculated 't' value was 19.23 which is higher than tabulated 't' value 1.98 at 0.05 level of significance.

**Section 4**
Association betweenpre-test knowledge regarding healthy lifestyle to prevent cardiovascular diseases with selected demographic variables of adolescents in selected school, Agartala.

**Table 5**

**N=100**

| Sl No | Demographic variables | Knowledge score | | | Chis quare | Tab value | df |
|---|---|---|---|---|---|---|---|
| | Age | Inadeque | Moderate | Adequate | | | |
| 1. | 15-16 year | 21 | 7 | | 15.71 S | 3.84 | 1 |
| | 17-18 year | 72 | | | | | |
| 2. | Gender | | | | | | |
| | Male | 51 | 3 | | 1.01 NS | 3.84 | 1 |
| | female | 41 | 5 | | | | |
| 3. | Class | | | | | | |
| | xi | 26 | 5 | | 3.89 S | 3.84 | 1 |
| | xii | 68 | 1 | | | | |
| 4. | Educational qualification of the parents | | | | | | |
| | Illiterate | 48 | 2 | | 1.39 NS | 3.84 | 1 |
| | Primary education | 40 | | | | | |
| | Secondary education | 3 | 7 | | | | |
| | Graduate and above | | | | | | |
| 5. | Family Income | | | | | | |
| | Less than 5000 | 1 | 2 | | 0.455 NS | 3.84 | 1 |
| | 5001-10000 | 41 | 4 | | | | |
| | 10001-20000 | 47 | | | | | |
| | 20001-80000 | 5 | | | | | |
| 6. | Previous knowledge about cardiovascular diseases | | | | | | |
| | Yes | 80 | 6 | | 0.433 NS | 3.84 | 1 |
| | No | 14 | | | | | |
| 7. | Source of information | | | | | | |
| | Health worker | 41 | 2 | | 4.14 S | 3.84 | 1 |
| | Media | 3 | 4 | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Family member | 45 | | | | | |
| | Teacher | 5 | | | | | |

Table 5 envisages the outcome of chi square analysis being carried out to bring out the association between the mean difference level of knowledge regarding healthy lifestyle to prevent cardiovascular diseases among adolescents with their demographic variables.

Out of which age, class and source of information of the demographic variables of the adolescents were significant with level of knowledge regarding healthy life style to prevent cardiovascular diseases. And other demographic variables are not significant with level of knowledge.

**Discussion**

In the present study showes that the adolescents had inadequate (93%) knowledge regarding healthy lifestyle maintenance can prevent cardiovascular diseases. After structured teaching programme they gained some knowledge about the topic and the (72%) adolescents had adequate knowledge.

This study is supported by a similar study conducted by Clifton C, Addison, Brenda W. Jenkins, Monique S et.al, 2006, on implementation of a cardiovascular disease prevention program among school aged children. The students enrolled in the program represented 10th and 11th grade students. The findings reveals that in pre-test 95.38% students did not know the answer of the questions, and 4.62% had answered the question properly. In posttest 78.58 % students were giving adequate answer and 21.42% students were not ansuring properly. The study result showed that the program was effective [6].

The paired t-test was found to be significant to overall knowledge regarding healthy lifestyle to prevent cardiovascular diseases. Value of t-19.23 it was at 0.05% level of significance.

This study is supported by a similar study conducted by Sunil Moothedath, Valsamma Josephin 2019, a study was conducted on effectiveness of an educational intervention programme on knowledge, attitude and practice of school children regarding prevention of cardiovascular diseases. The paired 't' test score was 11.19 that is higher than the tabulated 'p' value (p=0.001). Hence, the study was effective [7].

The outcome of chi square analysis revealed that Out of which age, class and source of information of the demographic variables of the adolescents were significant with level of knowledge regarding healthy lifestyle to prevent cardiovascular diseases.

This study is supported by a similar study conducted by Yadav KD, Wagle RR in 2012, on knowledge and attitude regarding major risk factor of cardiovascular diseases among 15-19 year old students of Kathmandu district. The socio demographic variable source of information was found significant (p=0.004) with the knowledge of the student at 0.05 level of significance [8].

**Conclusion**

A healthy lifestyle can prevent so any diseases and its important to have the knowledge among the new generation it will help to reduce the incidence rate. On the basis of the study findings its concluded that the structured teaching program was effective to improve the knowledge of the adolescents regarding healthy lifestyle to prevent cardiovascular diseases. The study findings also revealed that the age, class and source of information is significant with level of knowledge.

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