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# ASSESSMENT OF ATTITUDE TOWARDS HEALTHY LIFE STYLE AND RISK OF CARDIOVASCULAR DISEASE AMONG ADOLESCENTS

Nursing

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## ABSTRACT

Cardiovascular disease is one of the major health challenges of 21st century. India holds the highest burden of Acute Coronary Syndrome (ACS) globally, having both the prevalence and incidence high among Indians which is affecting the productive workforce aged 35-65 years.The study was conducted to assess the attitude towards healthy life style and risk of cardiovascular disease among adolescents in selected higher secondary schools in Kottayam district.The objectives of the study were to assess the attitude of adolescents towards healthy life style,to assess their risk of cardiovascular diseases, to find the association between attitude towards healthy lifestyle and risk for cardiovascular diseases with selected variables. Quantitative approach with non- experimental, explorative descriptive design was used for the study. A multistage stratified random sampling was used. The study findings revealed a positive attitude towards healthy lifestyle in 89% subjects, strong positive in 5% and negative attitude in 6%. Prevalence of risk factors was high; 76.7% subjects were at moderate risk, 2.7% were at high risk and 20.6% were at low risk for CVD. Attitude towards healthy lifestyle showed significant association withgender and maternal occupation ($p<0.001$), alcoholism ($p<0.01$), paternal education, monthly income and smoking ($p<0.05$) among adolescents. Dietary pattern showed highly significant association ($p<0.001$) with presence of risk factors for CVD among adolescents. Attitude towards healthy lifestyle and risk for CVD showed significant negative correlation ($r = -.217, p < 0.01$).

## KEYWORDS

Attitude, lifestyle, cardiovascular disease risk, adolescents.

## INTRODUCTION

In a short period of time, India has witnessed an epidemiological transition from infectious disease conditions to non-communicable diseases. Premature mortality in terms of years of life lost due to CVD has increased from23.2 million in 1990 to 37 million in 2010. CVD has emerged as the leading cause of death across India, including poorer states and rural areas. More than 80% of CVD death was due to Ischemic heart disease and stroke. The Global Burden of Disease study estimate of age-standardized CVD death rate of 272 per 1,00,000 population in India is higher than the global average of 235 per 1,00,000 population.[1]

Even though Kerala has the health indices across Indian states and at par with developed nations, Kerala has the highest CVD risk than the rest of India. CAD in Kerala is premature and malignant resulting in death at a very young age.[2] Approximately 60% of CAD deaths in men and 40% of CAD deaths in women occur before the age of 65 years.[3]

A study to identify the prevalence of coronary artery diseases (CAD) and its risk factors in Kerala revealed that the prevalence of CAD in Kerala has increased nearly three times since 1993, without any difference in urban and rural areas.[4]The high prevalence of premature CAD in Kerala is because of increasing modifiable risk factors related to lifestyle in teenagers.[3]

Preventing risky behaviour, promoting healthy choices and early identification of risk among adolescents can yield positive health outcomes, not just during adolescence, but also during adulthood. Therefore, trying to detect the presence of risk factors early in youth enables the planning and implementation of preventive intervention programmes targeted at reducing the likelihood of manifestation of cardiovascular disease in adulthood.

### Objectives Of The Study

1. Assess The Attitude Towards Healthy Life Style Among Adolescents In Selected Higher Secondary Schools In Kottayam District.
2. Assess The Risk Of Cardiovascular Diseases Among Adolescents In Selected Higher Secondary Schools Of Kottayam District.
3. Find Out The Association Of Attitude Towards Healthy Lifestyle And Risk For Cardiovascular Diseases With Selected Base Line Variables.

## MATERIALS AND METHODS

The study was conducted usinga quantitative approach andexploratory descriptive design. The sample consisted of 300 adolescents from higher secondary schools of Kottayam district. Multistage stratified random sampling technique was used to select the samples.

**Tool 1:** Socio demographic data included 17 items; age, gender, religion, education, place of residence, type of family, parental education and occupation, average monthly income, dietary pattern, relaxation technique, smoking, alcoholism, hereditary disorders and mode of transport.

**Tool 2:** An attitude towards healthy lifestyle with 28 items regarding dietary pattern, obesity, substance abuse, stress, exercise and sleepwas rated against a five- point scale namely; strongly disagree, disagree, uncertain, agree and strongly agree against numerical scores 1,2,3,4 and 5 respectively.

The total score ranged from 28 to 140. The 8 negative and 20 positivestatements were separately scored and tabulated.Based on the scores, attitude was classified as strongly negative (28-56), negative (57-84), positive (85-112)and strongly positive (113-140).

**Tool 3:** A questionnaire to assess the risk factors of cardiovascular disordershad 18 items related to 6 factors; dietary habits (7), substance abuse (2) physical activity (3), sedentary activity (1), sleep (2) and stress (3) items. Risk level was classified into 3 categories; low risk(18-36), moderate risk (37-54) and high risk(55-72).

**Tool 4:** Bio-physiological profileincluded6 items, systolic blood pressure (SBP), diastolic blood pressure (DBP), height, weight, waist (WC) and hip circumferences (HC).

### Data Collection Procedure

Ethical clearance, administrative permissions from selected school Principals and assent from the subjects were obtained after explaining the study purpose, assuring confidentiality and privacy prior to the pilot and final studies.

## RESULTS

**Table 1:- Distribution Of Adolescents According To Demographic Variables (n=300)**

| Variables | Frequency (f) | Percentage (%) |
|---|---|---|
| **Age (years)** | | |
| 15 | 03 | 01 |
| 16 | 122 | 40.7 |
| 17 | 152 | 50.7 |
| 18 | 20 | 06.7 |
| 19 | 03 | 01 |
| **Gender** | | |
| Male | 149 | 49.7 |
| Female | 151 | 50.3 |
| **Religion** | | |
| Hindu | 133 | 44.3 |

| | | |
|---|---|---|
| Muslim | 5 | 1.7 |
| Christian | 162 | 54 |
| **Place of residence** | | |
| Urban | 100 | 33.3 |
| Rural | 200 | 66.7 |
| **Type of family** | | |
| Nuclear family | 253 | 84.3 |
| Joint family | 47 | 15.7 |

Majority (50.7%) of the subjects were 17 years old. Mean age ± SD was 16.67 ± 0.64. Female subjects (50.3%) exceeded male subjects (49.7%). More than half (54%) of the subjects were Christian, followed by Hindu (44.3%) and Muslim (1.7%). Rural dwellers (66.7%) exceeded urban dwellers (33.3%). Subjects mostly (84.3%) belonged to nuclear families; subjects form joint families were only (15.7%) (Table-1)

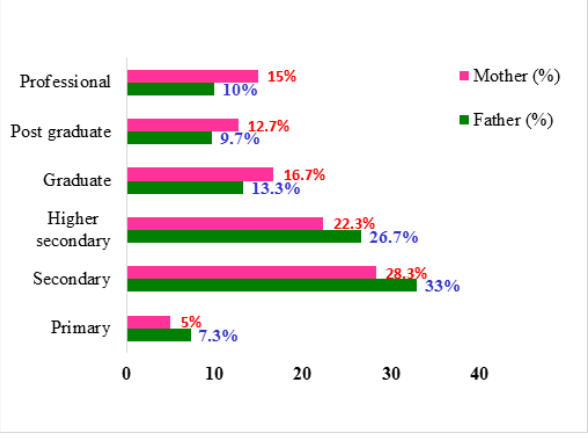


**Figure 1: Percentage Distribution Of Adolescents Based On Parental Education**

There were no illiterates in both groups. More than one third (33%) of the fathers and 28.3% of mothers had secondary education. Similarly, higher secondary education was more among fathers (26.7%) than mothers (22.3%). Mothers with higher education included 16.7% graduate 15% professionals and 12.7% post graduates. Whereas fathers with higher education included 13.3% graduates, 10% professionals and 9.7% postgraduates. Less than 10% of fathers and mothers had primary education; 5% for mothers and 7.3% of fathers (Fig-1)

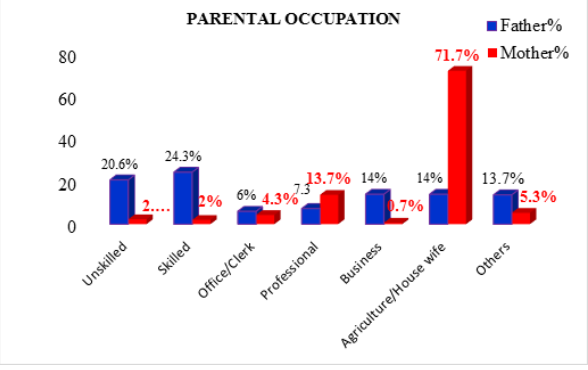


**Figure 2: Percentage Distribution Of Adolescents Based On Parental Occupation.**

Occupational status of the parents found almost a quarter (24.3%) of fathers was holding skilled jobs, followed by unskilled jobs (20.7%) and an equal number (14%) of them were working in business or agricultural sector. Majority (71.7%) of the mothers were housewives. A lesser proportion of fathers were engaged in office jobs (6%) and professionals (7.3%). Similarly, a lessor proportion of mothers were professionals (13.7%) and doing office jobs (4.3%). Rest of the mothers (2.3%) were doing unskilled (2.3%) and skilled (2%) jobs. Very few (0.7%) mothers were engaged in business (Fig-2).

Majority (58%) of the subjects belonged to a low socio-economic background, average monthly income below Rs. 20,000.Subjects from high income group (Rs. >30,001) were 19% while 13% had monthly income between Rs. 20,001-25,000 and only 10% of the families had income between 25,001-30000 rupees (Fig-3)

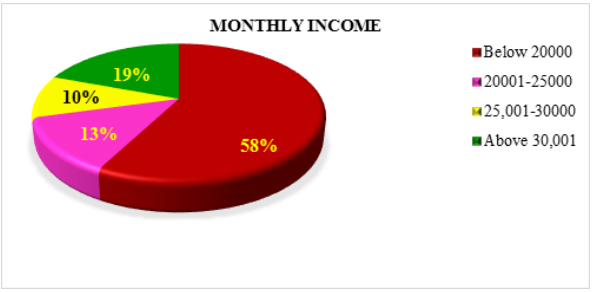


**Figure 3: Percentage Of Adolescents Based On Monthly Income.**

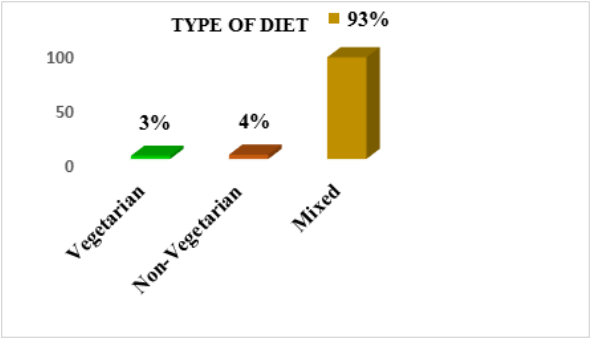


**Figure 4: Percentage Distribution Of Adolescents Based On Dietary Pattern**

Among the subjects, majority (93%) were consuming mixed diet while 3% followed vegetarianism and 4% preferred non-vegetarian diet (Fig- 4)

**Table2:- Frequency, Percentage Distribution Of Adolescents Based On Lifestyle (N=300)**

| Variables | f | % |
|---|---|---|
| **Relaxation technique** | | |
| Yes | 203 | 67.7 |
| No | 97 | 30.3 |
| **Smoking** | | |
| Yes | 35 | 11.6 |
| No | 265 | 88 |
| **Alcoholism** | | |
| Yes | 42 | 14. |
| No | 257 | 85.4 |
| **Mode of transport** | | |
| Walking | 69 | 23 |
| By bus | 218 | 72.7 |
| Cycling | 02 | 0.7 |
| Others | 11 | 3.7 |

Majority (67.7%) of the subjects were practicing relaxation measures. Substance abuse is prevalent in adolescents; 11.6% subjects had the habit of smoking and 14% had the habit of alcohol intake.Majority (72.7%) subjects travel by bus and 23% by walk.(Table-2)

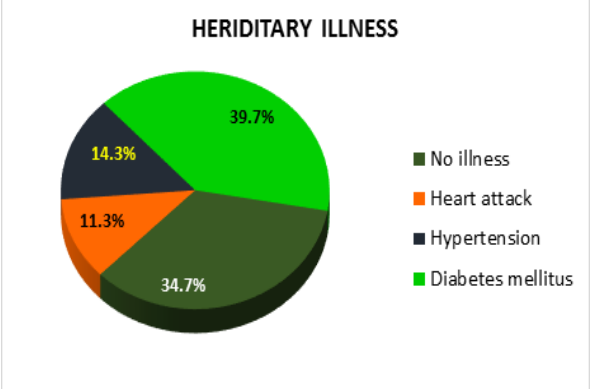


**Figure 5: Percentage Of Adolescents Based On Hereditary Illness**

History of hereditary illness was present in the family of subjects; 39.7% had T2DM, 25.6% had history of CVD and remaining 34.7% had no family history of any hereditary illness (Fig-5).

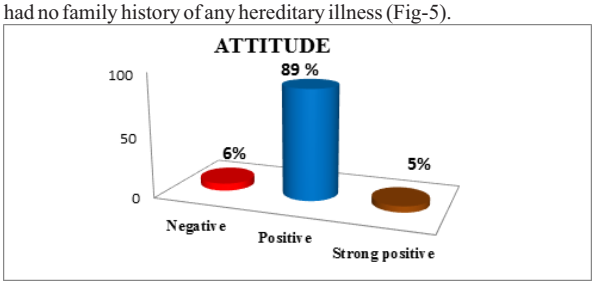


**Figure 6: - Attitude Of Adolescents Towards Healthy Lifestyle.**

Majority (89%) of subjects had positive attitude towards healthy lifestyle. Few subjects (5%) had strong positive attitude, while 6% adolescents had negative attitude towards healthy life style (Fig-6).

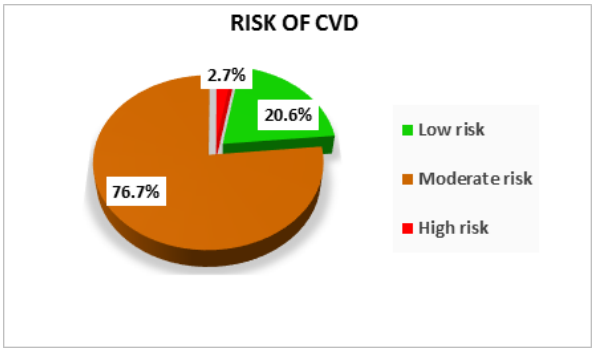


**Figure 7: - Risk Of Cardiovascular Disorders Among Adolescents**

Based on lifestyle factors, 76.7% school going adolescents were at moderate risk of CVD and 20.6% were at low risk. Whereas 2.7% were at high risk for CVD (Fig-7).

**Table 3: -association Of Attitude Towards Healthy Life Style And Selected Variables ( N=300 )**

| Baseline variable | $\chi^2$ | Df | p- value |
|---|---|---|---|
| Gender | 96.350 | 43 | 0.000*** |
| Father's education | 02.564 | 215 | 0.028* |
| Mother's occupation | 03.545 | 258 | 0.000*** |
| Monthly income | 01.636 | 129 | 0.021* |
| Smoking | 66.448 | 43 | 0.012* |
| Alcohol | 01.258 | 86 | 0.003** |

*Significance p<0.05**Significance p<0.01 ***Significance p<0.001

Attitude of the adolescents towards healthy life style showed highly significant (p<0.001) association with gender, maternal occupation while significant association was observed with alcoholism (p<0.01), father' education, monthly income and smoking (p<0.05) (Tab-3).

**Table4:- Association Of Risk For Cardiovascular Diseases With Selected Base Line Variables. ( N=300 )**

| Baseline variable | $\chi^2$ | Df | p-value |
|---|---|---|---|
| Type of diet | 1.023 | 54 | 0.000*** |

*** Significance p<0.001

Type of diet and risk for Cardio Vascular Disease (CVD) was found to have highlysignificant association (p<0.001) among adolescents (Table-4).

**Table5: - Relationship Of Adolescent's Attitude Towards Healthy Lifestyle And Risk Of CVD. ( N=300 )**

| Variables | Mean | SD | Correlation (r) | p- value |
|---|---|---|---|---|
| Attitude | 98.38 | 8.98 | - 0.217 | 0.000 |
| Risk of CVD | 41.0 | 5.61 | | |

*** Significance p<0.001

Attitude of the adolescents toward healthy lifestyle was found to have a highly significant negative correlation (p<0.001) with their risk for CVD (Table-5).

## DISCUSSION

### Attitude Of Adolescents Towards Healthy Lifestyle

In the present study, majority (89%) of adolescents had positive attitude towards healthy lifestyle. Only a few adolescents (5%) had strong positive attitude, while 6% had negative attitude towards healthy life style. There was a significant difference between the attitude scores of male and female students. Female students (99.4%) had a more positive attitude towards healthy lifestyle on comparison to males (88.6%) in this study. Present study also found that entire high-risk adolescents had a positive attitude towards healthy lifestyle.

The above findings were congruent with the findings of a study conducted among medical students in Mangalore to find out their knowledge, attitude and practice of nutrition and healthy life style. The study reported that despite good knowledge and positive attitude towards healthy life style, the medical students were not practicing it daily due to poor time management and academic stress. More number of female students had positive attitude than male students towards healthy lifestyle.[5]

### Risk Of CVD Among Adolescents

Based on the life style assessment, 76.7% subjects had moderate risk of CVD where as 20.6% had low risk. High risk for CVD was limited to 2.7%. A study from Kochi among 280 adolescents on life style related risk factors for CVD found 91.4% of adolescents were at moderate risk and rest (8.6%)of them were at mild risk of CVD. [6]

More female subjects were at high risk group than the male subjects. There were 3.3% females and 2 % males in the high-risk group whereas 76.8% females and 76.5% males were in the moderate risk category. Unhealthy dietary habits, lack of physical exercise and prolong screen time were found to be the major factors which made the adolescents at high risk for CVD. This finding was supported by a study conducted in schools of Delhi among 510 adolescent students of class 9 to 12 to identify the life style associated risk factors. The result showed inappropriate dietary habits and low physical activity were prevalent among adolescents.[7]

### Association Of Attitude Towards Healthy Lifestyle With Selected Variables

Gender, occupation of mother(p<0.001) and alcoholism (p<0.01)were found to have highly significant association while father's education, smoking and monthly income showed significant association (p<0.05) with attitude of adolescents towards healthy life style.

### Association Of Risk Of CVD With Selected Variables

The present study revealed a highly significant association (p<0.001) between type of diet and risk of CVD. This finding is consistent with the result of research conducted in Chennai. The study found a protective role against CVD among Asian Indians who had increased intake of fruits and vegetables.[7]Thus the study findings suggest early intervention among adolescents through promotion of healthy dietary pattern.

### Relationship Of Attitude Towards Healthy Lifestyle And Risk Of CVD

Significant negative correlation ($r = -.217$, $p < 0.01$) was observed between adolescent's attitude towards healthy lifestyle and risk of CVD. Hence it can be inferred that as attitude towards healthy lifestyle increases the risk of CVD is likely to decrease.

## CONCLUSION

In the light of the present study, it was concluded that unhealthy food habits, sedentary activities and inadequate physical activities were prevalent among the study population which indicate high risk behaviour for cardiovascular health. Majority of the subjects had a positive attitude towards healthy lifestyle. Despite the positive attitude for a healthy lifestyle, 76.7% of them were at moderate risk and 2.7 % of them were at high risk for CVD. Adolescents' attitude towards healthy lifestyle showed significant association with their gender, maternal occupation and alcoholism and significant association with paternal education, smoking and monthly income. Risk for CVD showed highly significant association with type of diet alone.Attitude of adolescents towards healthy lifestyle showed a negative correlation with their risk for CVD. It can be inferred from the finding that a negative attitude towards healthy lifestyle contributes to higher risk behaviour for CVD among adolescents and vice versa.

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**Conflict Of Interest**

The author has no conflict of interest do declare.

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**REFERENCE**

1. Prabhakaran D, Jeemon P, Roy A. Cardiovascular diseases in India. Circulation. 2016 Apr 19;133 (16):1605 -20, Accessed on 12.11.17 from: http://circ.ahajournals.org/content/circulationaha/133/16/1605.full.pdf
2. Soman CR, Kutty VR, Safraj S, Vijayakumar K, Rajamohanan K, Ajayan K, PROLIFE Study Group. All-cause mortality and cardiovascular mortality in Kerala State of India: results from a 5-year follow-up of 161 942 rural community dwelling adults. Asia Pacific Journal of Public Health.2011Nov;23(6):896-903, Accessed on 20.11.17 from: http://journals.sagepub.com/doi/pdf/10.1177/1010539510365100
3. Kerala Health Statistics, Indus health Plus, Accessed on 21.11.17 from: http://www.indushealthplus.com/kerala-health-statistics.html
4. Krishnan MN, Zachariah G, Venugopal K, Mohanan PP, Harikrishnan S, Sanjay G, Jeyaseelan L, Thankappan KR. Prevalence of coronary artery disease and its risk factors in Kerala, South India: a community-based cross-sectional study. BMC cardiovascular disorders. 2016 Jan 14;16(1):12, Accessed on 18.11.17 from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC471241/
5. Musaiger AO, Al-Mufty BA, Al-HazzaaHM. Eating habits, inactivity, and sedentary behavior among adolescents in Iraq: Sex differences in the hidden risks of noncommunicable diseases. Food and nutrition bulletin. 2014 Mar;35(1):12-9, Accessed on 22.12.17 from:https://pdfs.semanticscholar.org/ 88b0/ed53533 ae64d72112026d5847f7228726a60.pdf
6. Joseph Tibin, M sunil, V Reji, Assessment of the Lifestyle Related Risk Factors for Cardiovascular Diseases among Adolescents, Indian Journal of Public Health Research & Development, 2016 April-June;2(7) 2016, Accessed on 31/8/18 from: http://www.indianjournals.com/ijor.aspx?target=ijor:ijphrd&volume=7&issue=2&article=021
7. Lizzie Mulherin, Lack of sleep may cause this disease, which kills one brit every three minutes, Sunday express, Published: 17:38, Fri, Apr 22, 2016 22, 2016/ updated: 17:58,Accessed on 19.12.17 from: https://www.express.co.uk/life-style/health/663601/sleep-deprivation-linked-to-cardiovascular-disease-experts-find-lack-of-sleep-brits-number
8. Singh AK, Maheshwari A, Sharma N, Anand K. Lifestyle associated risk factors in adolescents. The Indian Journal of Paediatrics. 2006 Oct 1;73(10):901-6. Accessed on 31/5/18 from:https://link.springer.com/article/10.1007/BF02859283