

Knowledge of Younger Adults in the Prevention of Risk of Cardiovascular Disease in a Selected Community of Kannur District, Kerala

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Abstract

A cardiovascular disease (CVD) is an umbrella term used for the conditions that affect the heart and vessels. Cardiovascular diseases have become the number one reason behind morbidity and mortality in most countries among younger adults particularly in reproductive age group. It is emerging as a major health concern in fast-developing economies like India. This study aimed to assess the knowledge regarding the prevention of risk of cardiovascular diseases among younger adults in the selected community of Kannur districts of Kerala. A cross-sectional descriptive survey research design was used to conduct this study. Simple random sampling technique was used to select the 132 samples in a selected community. A QRISK2 standardised tool was used as a basis for the development of a knowledge scale to assess the knowledge regarding the prevention of cardiovascular diseases. The results indicated that 83.3 percent of younger adults have good knowledge and 16.7 percent have average knowledge regarding the prevention of cardiovascular diseases. There was improvement in level of knowledge in the prevention of cardiovascular disease among younger adults in an advanced literate society of Kerala; their lifestyle included physical activities, diet patterns. Relevant risk factors causing risk must be studied to curb the menace of CVDs.

Key words: Cardiovascular disease risk, Knowledge, Younger adults

Cardiovascular diseases (CVD) are becoming a leading cause of morbidity and mortality in industrialised countries; they are also emerging as prominent national health problem in developing and fast-developing countries like India, where the communicable disease is being brought under control. Among them, cardiovascular disease has become the most important cause of premature death and disability in the population, especially in the productive age group.

The CVD has been traditionally perceived to affect the older population. However, now it is more common in adolescents and young adults than the general public realises; it can affect anyone, at any age. Young people who are victims of sudden death often have an underlying cardiac disease that had remained undiagnosed. Athletes are typically in danger because of the continuously increased workload on the centre during physical activities. An athlete is usually thought of as a person who is in good physical health. However, when it involves cardiac disease, athletes are often taken unawares. One sort of cardiovascular

disease that affects athletes 30 years or younger is hypertrophic cardiomyopathy (HCM) which is the most typical cause of sudden death (Nancy, 2000).

Coronary artery diseases have become the foremost important reason for premature death and disability within the population. In some countries, one death among three men around the age of 55 years was due to coronary disease (Susan & Elizabeth, 2010)

Many studies show that control of smoking, regular physical activities, and a heart-healthy diet is important lifestyle interventions that may improve the patients of cardiovascular diseases. The guidelines of the American Heart Association for primary prevention recommend that the risk factor assessment of diet, smoking, and physical activities in adults should begin within the age of 20 years (Richard & David, 2007).

Need and significance of the study

Cardiovascular disease is the main cause of death in India. This general term encompasses circulatory disorders including stroke and coronary cardiovascular disease. Coronary heart condition by itself might be defined as the gradual narrowing of

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the artery supplying blood to the heart. It remains the top reason behind death in India; around 1 in 5 men and 1 in 6 women die from this disease. One study reported just over 10,5000 deaths per annum from CVD (Gidding, 2006). Establishment and maintenance of healthy behaviours of primordial prevention, including adherence to a healthy dietary pattern, being physically active, and abstaining from overuse of social media, are the mainstays of CVD prevention in adolescents.

Prevention of CVD among adolescents and young adults must begin early and extend across the full scope of young people's lived experience from the hospital, into their neighbourhoods, in their schools and into their smart phone in hand all the time. While CVD prevention among older adult is typically limited to primary or secondary prevention of cardiovascular outcomes, in adolescence and young adulthood true primordial prevention is possible. Data suggest that the vast majority of adolescents have already ceded much of their positive cardiovascular health assets well before adulthood (Richard et al, 2015).

The challenge of developing cardiovascular health risk among adulthood is multifactorial, involving a complex combination of family heredity, socioeconomic status of the family, cardiometabolic history of the family, lack of physical activities, poor dietary pattern, unusual weight gain, raised BMI, alcohol, smoking, tobacco and substance abuse, lack of quality sleep, more screen time and stress. Unfortunately, the family or education system rarely discusses the importance of cardiovascular health among adolescents. Current medical and nursing system focuses on treating cardiovascular problems instead of concentrating on cost-effective primordial prevention of CVD by nursing professionals.

Objectives

The study had two objectives:

- To assess the knowledge of prevention of risk of cardiovascular disease among younger adults.
- To find out the association between the knowledge of the younger adults and selected demographic variables.

Review of Literature

The adolescent period between the ages of 10 and 19 years is considered a vibrant period of life. It is estimated that worldwide there are more than 1.2 billion adolescents i.e. roughly one in every six persons is an adolescent. India is home to the largest adolescent population in the world. WHO estimated that in 2018, 21 percent of the Indian population (about 243 million), and as per US

Census Bureau in 2019, 13 percent of the American population (41 million) were adolescent.

A descriptive study was conducted to assess the knowledge regarding the prevention of CVD among 50 obese women in Mangalore. Samples were selected by purposive sampling technique. Results showed that among 50 obese women level of knowledge, of half (50%) was average, 34 percent had good knowledge, 6 percent had very good knowledge and 10 percent had poor knowledge about the prevention of CVD. The knowledge level of obese women regarding the prevention of CVD was comparatively low. Various multispectral approaches are required to improve their knowledge which would help to improve their quality of life (Kanchana, 2021). A quasi-experimental study to assess the effectiveness of clinical pathways for myocardial infarction patients on knowledge and practice of nurses and patient outcomes was conducted at Apollo Hospitals, Chennai. Seventy patients undergoing PTCA and 30 nurses were selected by purposive sampling. The post-test knowledge score was higher ($M=25.86$, $SD=2.39$) than the pre-test score ($M=15.96$, $SD=2.22$) with 't' value 16.6, $p<0.001$. The practice scores in control group of patients were 3.46 at $p<0.001$. The patient satisfaction score ($M=56.66$, $SD=8.97$) and outcome ($M=18.86$, $SD=1.48$) in control group of patients was lower when compared to the outcome of experimental group of patients ($M=68.55$, $SD=6.87$) ($M=20.27$, $SD=1.59$), with 't' value 6.56 and 3.91 respectively at $p<0.001$. There was an association between educational status of nurses and the pre-test knowledge scores of nurses and nature of work and dietary pattern, hypertension and smoking and outcome of patients (Benila et al, 2016).

In a cross-sectional study to assess the cardiovascular diseases prevention knowledge and associated factors among adults aged 25 to 70 years in Mukono and Buikwe districts in Uganda, data were collected using pre-tested semi-structured questionnaire. Among the 4372 study respondents, only 776 (17.7%) were knowledgeable on CVD prevention. Most respondents were knowledgeable about foods high in calories 2981 (68.2%), 2892 (66.1%) about low fruit and vegetable intake, respectively, and 2752 (62.9%) about high salt consumption as CVD risk factors. However, majority (3325, 76.1%) thought the recommended weekly moderate physical activity was 30 min and about half ($n=2262$, 51.7%) disagreed or did not know that it was possible to have hypertension without any symptoms. Factors associated with high CVD knowledge were: post-primary education, formal employment and high socio-economic status. Other factors were: household ownership, possession of a mobile

phone and ever receiving advice on healthy lifestyles. This study found very low CVD knowledge with major gaps around recommended physical activity, duration, diet and whether hypertension is asymptomatic.

In yet another cross-sectional study Shreshtha et al (2020) sought to assess the knowledge, attitude and practice regarding CVD in adults attending health care centres in Tehran, Iran. The study was performed using a self-administered questionnaire with score of 0-100 on adults aged > 20 years attending 10 health care centres in Tehran province, Iran. Descriptive and multivariate logistic regression analyses were used in data analysis. A total of 300 adults (51.3% females) with a mean age of 39.71±12.1 years participated in this study. The median (IQR) score for knowledge about CVD was 91.7 (16.7); approximately 80 percent of respondents' awareness was highly satisfactory and hypertension was the commonest identified risk factor followed by obesity. Further, the median (IQR) score for attitude was 89 (18); 70 percent of respondents had a highly satisfactory attitude about CVD. Regarding physical activity and nutrition/smoking behaviours, just 10.7 percent and 32 percent had highly satisfactory behaviour, respectively. In the multivariate logistic regression analysis, attending university education and age≥ 40 years were independent factors of a better level of CVD knowledge; attending university education and having a family history of chronic disease were independent factors of a better level of CVD attitude. Regarding higher physical activity behaviour, being a man, and for a better nutrition & smoking behaviour, attending university education were the only independent factors (Goel, 2022).

The Indian hearts lacking care study (Sharma, 2012) also projected that Delhi has the highest number of overweight and obese population (50% and 38% respectively), while 65 percent of people in Mumbai and 48 percent in Delhi are in the CVD risk age group. It also revealed that 50 percent of men and 25 percent women in Bengaluru are more prone to BP risk.

Materials and Methods

Research approach: A quantitative research survey approach was adopted for this study to assess the knowledge regarding risk of cardiovascular disease among younger adults.

Research design: A descriptive survey design was adopted for this study.

Setting of study: The study was conducted in the selected community of Kannur District, Kerala.

Variables: The demographic variables were age,

sex, religion, marital status, education status, type of family, family income, history of smoking, alcohol consumption, diabetes and hypertension etc.

Sample and sampling technique: The sample comprises 132 younger adult students of selected communities of Kannur district, Kerala; simple random technique was used to select the samples.

Inclusion criteria: Willingness to participate in this study; Age between 20 and 45 years.

Exclusion criteria: Age group greater than 45 years; Younger adults without any comorbidity.

Description of the tool

Part 1 consisting of demographic variables included age, sex, religion, marital status, education status, type of family, family income, history of smoking, alcohol consumption, diabetes hypertension and body weight.

Part 2 was a knowledge questionnaire on the CVD risk prepared based on the QRISK2 Scale for risk of cardiovascular disease. The QRISK2 algorithm has been developed by doctors and academics working in the UK NHS. This tool is intended to work out the risk of having CVD over the next 10 years. The knowledge score was categorised as poor, average, and good.

Results

The knowledge scores on the prevention of risk of cardiovascular diseases among younger adults were analysed by using descriptive and inferential statistics.

Data in Table 1 depicted that more than three-fourth (83.3%) of the younger adults had good knowledge; 16.7 percent had average knowledge and none of them had poor knowledge regarding prevention of risk of CVD. Kanchana (2021) also reflected the high knowledge level among obese women in Mangalore regarding prevention of cardiovascular disease. Author concluded that though the women had good knowledge, the life-style factors are most common for development of CVD among younger adults.

Table 2 shows that there was no significant association between the knowledge scores and selected demographic variables except gender

Table 1: Knowledge score of younger adults regarding prevention of cardiovascular disease (N = 132)

Knowledge	Frequency	Percentage
Poor	0	0
Average	22	16.7
Good	110	83.3

[df(2)=0.040 calculated value=19.002] monthly income [df(2)=0.252 calculated value=45.253] at 0.05 levels of significance.

Discussion

The study was limited to young adults from a selected community, who belonged to the age group of 20-40 years, were willing to participate in the study, and available during the time of data collection. The present study depicts that more than three-fourth (83.3%) of the younger adults had good knowledge, 16.7 percent had average knowledge and none of them had poor knowledge regarding the prevention of risk of CVD.

A cross-sectional descriptive study among total of 452 adolescent students of class 9 to 12 standard (males 247, 54.64%), (females 205, 45.36%) showed that 12.61 percent of adolescents had hypertension; 3.98 percent were overweight. Insufficient physical activity was reported among 15.70 percent of adolescent (female 23.41%, male 9.31%).

Recommendations & Conclusion

Further research such as a comparative study can be conducted to assess the level of knowledge of younger adults in urban and rural areas. Studies can also be done on large samples, and in another age group. The investigator concludes that though the good knowledge of CVDs helps in prevention of CVD, the lifestyle factors are most common among our younger adults.

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Table 2: Association between the knowledge score and the selected demographic variables of younger adults (N=132)

Variable	Knowledge score		df	Chi-square	Interference
	< Mean	> Mean			
Age in years					
20-25	53	56	6	29.250	Not significant
26-30	4	3			
31-35	6	5			
36-45	2	3			
Gender					
Male	25	23	2	19.002	Significant
Female	38	46			
Religion					
Christian	45	41	6	13.046	Not significant
Hindu	17	15			
Muslim	5	7			
Others	1	1			
Type of family					
Nuclear family	48	51	4	15.676	Not significant
Joint family	15	10			
Others	0	2			
Occupation					
Unemployed/student	45	48	6	32.282	Not significant
Self employed	6	4			
Private employee	12	13			
Government employee	1	3			
Marital status					
Single	48	56	2	11.521	Not significant
Married	14	14			
Family history of diabetes mellitus					
Yes	20	33	2	9.717	Not significant
No	44	35			
Family history of hypertension					
Yes	15	29	2	12.511	Not significant
No	47	42			
Monthly income in INR					
Less than 10000	20	29	6	45.253	Significant
10001-20000	21	18			
20001-30000	12	8			
Above 30001	6	17			
Body weight					
Less than 50 kg	18	25	6	24.447	Not significant
Between 50-70kg	34	34			
Between 70-80 kg	5	6			
Above 80kg	5	5			
History of smoking					
Yes	3	5	2	4.900	Not significant
No	58	66			
History of drinking alcohol					
Yes	3	6	2	4.651	Not significant
No	58	65			

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