



Original Article

Assessment of Knowledge and Awareness on Cardiovascular Risk Factors in a Teaching Hospital

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Objectives: To assess the level of knowledge and awareness of cardiovascular disease risk factors in selected population. **Materials and Methods:** It was a questionnaire based prospective study. This study included hospital in-patients treated in General Medicine and Obstetrics department. The awareness is assessed by the Heart Disease Fact Questionnaire. **Results:** The percentage of participants who were aware about the risk factors were 82% and unaware was 15%. Among the risk factors, high blood pressure and diabetes (93.3%) ranked the most, followed by smoking (85.7%), overweight (60%), age (56.2%). **Conclusion:** Thus by the study it was concluded that, the awareness of Heart Disease risk factors in population is fairly good. So the study concludes for significance in increasing the awareness among large population regarding the risk factors of cardiovascular diseases assessing a better quality of life among the population.

Key words: Cardiovascular disease, risk factors, awareness, knowledge.

1. INTRODUCTION

Globally one of the most common cause of death occurring among the population is due to CVD's (Cardiovascular Diseases) comparing with any other causes.¹ Some of the common diseases include: ischemic heart disease (IHD), aortic aneurysms, rheumatic heart disease (RHD), cardiomyopathy, atrial fibrillation, hypertensive heart disease, endocarditis, congenital heart disease and peripheral artery disease (PAD).² It is expected that about 90% of CVD are preventable. About 80% deaths in males and 75%

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deaths in females occur due to IHD and stroke.³ A “risk factor” is defined as an individual’s characteristic which is associated with the consequent progress of a disease.⁴

Mostly the risk factors for cardiovascular disease are either modifiable or totally preventable. Modifiable risk factors consist of tobacco use, physical inactivity, high blood pressure, obesity, intense alcohol consumption, high blood cholesterol and poor nutrition. Age and family history are the non-modifiable risk factors. Higher the risk of mounting a disease, more the risk factors an individual faces. Age is one of the most significant risk factor for developing CVD’s with thrice an increase of risk in each decade of life.⁵

According to World Health Organization about 40% of sex ratio variations occurs in coronary heart disease mortality based on the gender of the individual which is the fourth leading risk factor for death rate worldwide while 1.7 million death occur due to inappropriate diet.^{6,7}

Keeping these facts in consideration the present study was planned to define the assessment on knowledge and awareness of cardiovascular disease risk factors.

2. MATERIALS AND METHODS

A prospective questionnaire based study was conducted at Basaveshwara Medical College Hospital and Research Centre, Chitradurga, Karnataka, India. The patients admitted in Medicine and Obstetrics departments of the hospital who were cardiovascular patients with no communication or perception problem, pregnant and lactating mothers and those who were willing to give inform consent forms were included in the study. Patients with mental disorders or life threatening diseases were excluded from our study. The study was conducted for a period of six months from October 2014 to March 2015.

A data collection form that carries demographic details of the patients like age, sex, diagnosis, education, occupation and residence were prepared. “Heart Disease Fact Questionnaire” (HDFQ) was also used in the study. The study was approved by the Institutional ethical committee of the SJM College of Pharmacy, Chitradurga (IEC-543 U/2014-2015 Date-13/10/2014). The data was entered in Microsoft excel-2010 version and the results were analyzed using statistical package for social services (SPSS 16.0). Descriptive methods was used to obtain frequency, unpaired T-test and ANOVA was used to obtain the significant difference between quantitative variables.

3. RESULTS

A total of 105 patient’s data were collected from the medicine and Obstetrics department of Basaveshwara Medical College Hospital and Research Centre. The total study population was categorized into three age groups and patients in each group were compared with rural and urban residence. Out of this, total of 10 were from 20-40 years, 44 were from 41-60 years and 50 were from >60 years. The gender distribution of the total study population is depicted in Table 1.

In our total study population, the patients were distributed into 5 groups based on education which is given in Table 2 and the patient distribution based on the occupation is explained in Table 3. The total patient distribution according to socio-demographic variables were depicted in Table 4.

Among the total of 15 questions asked to the patients from the HDFQ, the percentage of participants who were aware about the risk factors were 82% and unaware was 15%. Among the risk factors, high blood pressure and diabetes(93.3%) ranked the most, followed by smoking(85.7%), overweight(60%), age(56.2%). the percentage of correctly answered questions were summarized in Table 5 and the results of total HDFQ Score analyzed with that of socio-

demographic variables of patients were presented in Table 6.

4. DISCUSSION

Cardiovascular diseases become more common with ageing.¹² WHO classifies the disease conditions into 11 groupings based on drug findings and progress for the purpose of assessing the mortality data.¹³ Knowledge about CVD and its risk factors is a vital requirement to change the individual's behaviors, physical conditions and daily life practices.¹⁵ A better patient outcome can be achieved by the improvement of the patients knowledge about various cardiovascular diseases.¹⁶ Individuals should be aware about the implications of CVD, its risk factors and symptoms to allow them to be proactive for reducing their risk.¹⁷

The previous study shows that the age distribution of total population were 32% of 30-39 years, 34% of 40-49 years, 28% of 50-59 years and a total of 60% were male and 20% were females.⁷ From our study it is observed that, out of total 105 patients 9.5% were from 20-40 years, 41.9% were from 41-60 years and 47.6% were from >60 years and a total of 57.14% were females and 42.85% were males. Another study finds that about 67.0% were literate more than average, 8.0% were having primary education and 25% with no education. Comparing our study observations, out of 105 patients 52.4% were uneducated, 12.4% with primary education, 28.6% with secondary education, 2.9% with pre-university and 3.8% with degree education. In addition, in another study, 71.8% were having an occupation⁸ and a fewer women have household incomes.³

The results of our study reveals that, 6.6% were unemployed and 13.3% were employed and about 93.3% of patients are aware about high blood pressure and diabetes as a risk factor which is followed by smoking 85.7% and overweight 60% which can be compared with a study showing that 92% had a good

knowledge on fatty food consumption, 83% were aware of smoking, 42% were aware about obesity as a risk factor and only 25% knows about the protective effect of exercise.⁷

Table 1: Distribution of Patients according to Gender

Gender Distribution	Rural	Urban
Female	38	22
Male	22	23

Table 2: Distribution of Patients According to Educational Status

Education Status Distribution	No of Patients	Percentage (%)
Uneducated	46	43.8
Primary School	17	16.2
Secondary	35	33.3
PUC	3	2.9
Degree and above	4	3.8

Table 3: Distribution of Patients according to Occupation

Occupational Status	Rural	Urban
Unemployed	55	36
Employed	5	9

Table 4: Distribution according to socio demographic variables

Socio demographic variables	Frequency		Total
	Rural (n=60)	Urban (n=45)	
Age	Mean(sd)=58.4 (13.9)		
20-40	3	8	11
41-60	27	17	44
>60	30	20	50
Gender			
Female	38	22	60
Male	22	23	45
Education			
Uneducated	36	19	55
Primary	7	6	13
Secondary	16	14	30
PUC	1	2	3
Degree & above	0	4	4
Occupation			
Unemployed	55	36	91
Employed	5	9	14
Total	60	45	105

Table 5: Percentage of correctly answered questions

HDFQ Questionnaires	(%)
1. A person always knows when they have heart disease	9.5
2. If you have a family history of heart disease you are at risk for developing heart disease	33.3
3. The older a person is, the greater their risk of having heart disease	56.2
4. Smoking is a risk factor for heart disease	85.7
5. High blood pressure is a risk factor for heart disease	93.3
6. Keeping blood pressure under control will reduce a person's risk for developing heart disease	7.6
7. High cholesterol is a risk factor for developing heart disease	30.5
8. Eating fatty foods does not affect blood cholesterol levels	4.8
9. If your "good" cholesterol (HDL) is high you are at risk for heart disease	1.9
10. If your "bad" cholesterol (LDL) is high you are at risk factor for heart disease	3.8
11. Being overweight increases a person's risk for heart disease.	60.0
12. Regular physical activity will lower a person's chance of getting heart disease	32.4
13. Diabetes is a risk factor for developing heart disease	93.3
14. High blood sugar puts a strain on the heart	7.6
15. People with diabetes rarely have high cholesterol	10.5

Table 6: Total HDFQ score with socio-demographic variables

Variables	Total	Mean	SD	p-value
Age				
20-40	11	6.09	3.239	0.434
41-60	44	5.30	2.216	
>60	50	5.12	2.017	
Total	105	5.30	2.244	
Sex				
Male	45	5.91	2.745	0.014*
Female	60	4.83	1.659	
Education				
Uneducated	55	4.38	1.027	0.000*
Primary	13	4.38	1.193	
Secondary	30	5.97	1.771	
PUC	3	9.33	2.082	
Degree & above	4	12.75	1.708	
Total	105	5.30	2.244	
Occupation				
Unemployed	91	4.89	1.696	0.000*
Employed	14	7.93	3.430	
Residence				
Rural	60	4.53	1.359	0.000*
Urban	45	6.31	2.754	

(*) denotes significant at 5% level.

5. CONCLUSION

With the results which we obtained, we concluded that: Half of the participants were educated. Based upon the questionnaire most of the participants were aware of

risk factors and major risk factor in the study was high blood pressure and the least was age. In this study we also found that the participants are unaware of co-morbid conditions like diabetes and hyperlipidemia. As the study was conducted in a small area and within a shorter duration, the study reveals the awareness of limited sample population. Further conducting awareness programs and studies with larger population would help in increasing a better quality of patient life.

6. REFERENCES

1. WHO: World Health Organization-global status report on non-communicable diseases [Internet] Available from: <http://www.who.int/mediacentre/factsheets/fs317/en/>. Accessed on 2015.
2. Cardiovascular System Disease 2015 Encyclopedia Britannica, Inc. Available from <http://www.britannica.com>. Accessed on 2015.
3. Chinju G, Andhuvan G. A Population-based study on Awareness of Cardiovascular Disease Risk Factors. Indian Journal of Pharmacy Practice 2014; 7(2): 23-24.
4. Helen BH, Feinleib M, Castelli WP. The Relationship between the Degree of Obesity and the Incidence of Cardiovascular Disease was re-examined in the 5209 men and women of the original Framingham Cohort. American Heart Association 1983; 131(19): 968-77.
5. David JP, Kenn K, Patrick B, Wolfgang A, Hermann CH et al., Physical activity and clustered cardiovascular disease risk factors in young children: a cross-sectional study. BioMed Central Medicine 2013; 11(2): 172-73.
6. Ross TT, Jeffery AJ, Koon KT, Scot HS, Andrew Cave et al., A Randomized Trial of the Effect of Community Pharmacist Intervention on Cholesterol Risk Management. Arch Intern Med 2002; 162: 1149-55.

7. Mendis, Shanthi, Puska, Pekka, Norrving B. Global Atlas on Cardiovascular Disease Prevention and Control 2011; 1(1): 3-18.
8. McGill HC, McMahan CA, Gidding SS. Preventing Heart disease in the 21st Century: implications of the Pathological Determinants of Atherosclerosis in Youth Study. *Circulation* 2008; 117(9): 1216-27.
9. Lori M, Anjanette F, Rosalind F, Rose MR. Tracking Women's Awareness of Heart Disease An American Heart Association National Study. *Circulation* 2004; 109: 573-79.
10. Understand Your Risk of Heart Attack. American Heart Association, Available from: <http://www.heart.org/HEARTORG/conditions/heartattack>. Accessed on 2015.
11. Awosan KJ, Ibrahim MT, Sabir AA, Ejimodu P. Awareness and prevalence of risk factors of coronary heart disease among teachers and bankers in Sokoto, Nigeria. *Journal of Medicine and Medical Sciences* 2013; 4(9): 335-42.
12. Web MD. Heart and Cardiovascular Diseases. Available from: <http://www.m.webmd.com/heart-diseases/guide/diseases-cardiovascular>. Accessed on 14 June 2015.
13. Coronary Heart Disease Statistics 2012. British Heart Foundation. Available from: <http://bhf.org.uk/publications/statistics-2012>. Accessed on 13 December 2012.
14. Howard BV, Wyile RJ. Sugar and Cardiovascular Diseases: A statement for healthcare professionals from the committee on nutrition of the council on nutrition, physical activity and metabolism of the American heart association. *Circulation* 2000; 106(4): 523-27.
15. Zeljko R, Zdenko S. The Perception and Knowledge of Cardiovascular Risk factors among Medical Students. *Croat Med J* 2012; 53: 278-84.
16. Thomas SMD, Anna YS, Paul D. Study on Cardiovascular Disease in an Urban Health Centre of Kolkata. *Indian Journal of Community Medicine* 2008; 33(4): 271-75.
17. Lori M, Anjanette F, Rosalind F, Rose MR. Tracking Women's Awareness of Heart Disease An American Heart Association National Study. *Circulation* 2004; 109: 573-79

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