ORIGINAL RESEARCH

Assessment of knowledge of patients with cardiovascular disease

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Received Date: 17 October, 2020 Acceptance Date: 22 November, 2020

ABSTRACT
Background: Cardiovascular disease (CVD) continues to be a leading cause of death worldwide and contributes significantly to the disease burden in populations everywhere. The present study was conducted to assess knowledge of patients with cardiovascular disease. **Materials & Methods:** 180 CVDs patients were given a questionnaire. Oral health status, oral health care behaviors and attitudes, dental self-care confidence, oral health knowledge and beliefs, information obtained on oral health since a heart diagnosis, and social and family support were all included in the study questionnaire. **Results:** There were 95 males and 85 females. Cardiovascular condition was CAD in 45, arrhythmia in 36, hypertension in 74 and heart failure in 25. Marital status was married in 108 and unmarried in 72. The difference was significant (P< 0.05). Oral health status was excellent in 17%, very good in 10%, good in 40%, fair in 30% and poor in 3%. Oral health problems were dental caries in 15%, tooth ache in 32%, sensitivity in 23%, bleeding gums in 5%, dry mouth in 10% and loose teeth in 15%. Importance of oral health compared to overall health was low importance (0–4) in 9%, neutral (5) in 15% and important to extremely important (6–10) in 76%. They used to brush teeth/denture few times a week in 18%, once a day in 22%, 2 or more times a day in 54% and never in 6%. Oral hygiene products used were fluoride toothpaste in 82%, dental floss in 18%, mouthwash in 19% and sugar free chewing gum in 15%. Last dental visit<1yearwas seen in 74%, 1-2 years in 11% and >2 years in 15%. The difference was significant (P< 0.05). **Conclusion:** Low awareness of the significance of oral health and a high frequency of self-reported oral health issues were observed in individuals with CVD.
Key words: Cardiovascular disease, Dentist, floss

INTRODUCTION

Cardiovascular disease (CVD) continues to be a leading cause of death worldwide and contributes significantly to the disease burden in populations everywhere.[1] According to research on the global burden of disease, there were an estimated 422.7 million cases of CVD in 2015, which resulted in 17.92 million deaths globally. The prevalence of CVD is high in developing nations, yet little is known about the condition and its risk factors. People in poverty, particularly those in low-income nations, are much more affected by CVD.[2] Furthermore, research indicates that CVD is becoming more common and presenting a public health concern in developing nations. One of the main causes of the rising prevalence of CVD in these nations is high blood pressure. Most hypertensive patients have uncontrolled hypertension, which leads to additional cardiovascular (CV) problems.[3]

The prevalence of cardiovascular disease (CVD) is correlated with periodontal disease, and there is mounting evidence that periodontal disease may be a risk factor for atherosclerotic cardiovascular disease (ASCVD).[4] A chronic inflammatory condition that affects the bone and tissues that support teeth is called periodontal disease or periodontitis.[5] Tooth loss results from the host's reaction to a bacterial infection that affects the oral cavity and dental plaque. Periodontitis is a significant global public health issue that adds to the burden of chronic oral disorders. Over 1.3 billion people worldwide suffer from hypertension, and one in three adults suffer from it.[6]The present study was conducted to assess knowledge ofpatients with cardiovascular disease.

MATERIALS & METHODS

The present study comprised of 180 patients attending cardiology department of both genders. All patients gave their written consent to participate in the study.
Data such as name, age, gender etc. was recorded. A questionnaire was given to everyone. Oral health status, oral health care behaviors and attitudes, dental self-care confidence, oral health knowledge and beliefs, information obtained on oral health since a heart diagnosis, and social and family support were all included in the study questionnaire. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table I Demographic data

Parameters	Variables	Number	P value
Gender	Male	95	0.82
	Female	85	
Cardiovascular condition	CAD	45	0.61
	Arrhythmia	36	
	Hypertension	74	
	Heart failure	25	
Marital status	Married	108	0.05
	Unmarried	72	

Table I, graph I shows that there were 95 males and 85 females. Cardiovascular condition was CAD in 45, arrhythmia in 36, hypertensionin 74 and heart failurein 25. Marital status was married in 108 and unmarried in 72. The difference was significant (P< 0.05).

Graph I

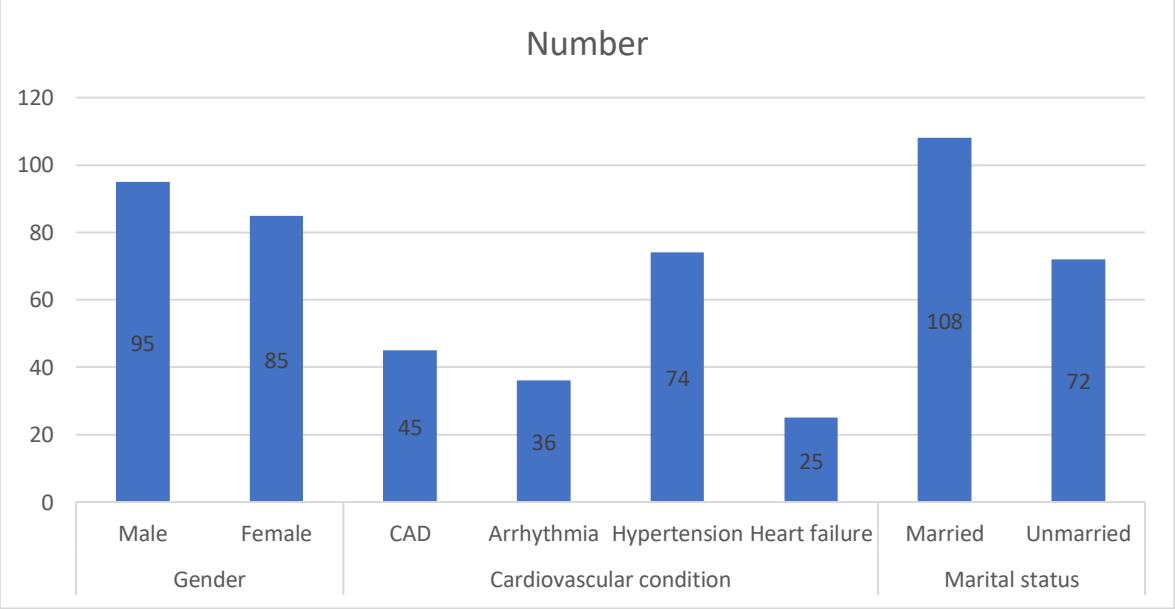

Table II Assessment of Oral health status and behaviour

Parameters	Variables	Number	P value
Oral health status	Excellent	17%	0.95
	Very good	10%	
	Good	40%	
	Fair	30%	
	Poor	3%	
oral health problems	Dental caries	15%	0.01
	Tooth ache	32%	
	Sensitivity	23%	
	Bleeding gums	5%	
	Dry mouth	10%	
	Loose teeth	15%	
Importance of oral health	Low importance (0–4)	9%	0.01

compared to overall health	Neutral (5)	15%	
	Important to extremely important (6–10)	76%	
How often do you brush your teeth/denture	Few times a week	18%	0.03
	Once a day	18%	
	2 or more times a day	58%	
	Never	6%	
Oral hygiene products used	Fluoride toothpaste	82%	0.35
	Dental floss	18%	
	Mouthwash	19%	
	Sugar free chewing gum	15%	
When was your last dental visit	<1 year	74%	0.01
	1-2 years	11%	
	>2 years	15%	

Table II shows that oral health status was excellent in 17%, very good in 10%, good in 40%, fair in 30% and poorin 3%. Oral health problems were dental caries in 15%, tooth ache in 32%, sensitivity in 23%, bleeding gums in 5%, dry mouthin 10% and loose teeth in 15%. Importance of oral health compared to overall health was low importance (0–4) in 9%, neutral (5) in 15% and important to extremely important (6–10) in 76%. They used to brush teeth/denture few times a week in 18%, once a day in 22%, 2 or more times a dayin 54% and never in 6%. Oral hygiene products used were fluoride toothpaste in 82%, dental floss in 18%, mouthwash in 19% and sugar free chewing gum in 15%. Last dental visit<1year was seen in 74%, 1-2 years in 11% and >2 years in 15%. The difference was significant (P< 0.05).

DISCUSSION

In India, cardiovascular diseases (CVDs) constitute the leading cause of death. According to the age-standardized Global Burden of Disease research, cardiovascular disease (CVD) accounts for 24.8% of all fatalities in India.[7] More than 80% of deaths from CVD are caused by stroke and coronary heart disease (CHD).[8] Myocardial revascularization, valve replacement or repair, aortic disorders, congenital heart disease correction, cardiac pacemaker implantation, and heart transplantation are all included in the category of cardiovascular surgery (CVS).[9] According to epidemiological research, mouth infections—more especially, periodontitis—may pose separate hazards for a number of systemic illnesses, including cardiovascular diseases, diabetes mellitus, lung infections, preterm low birth weight, and osteoporosis.[10]By producing inflammatory mediators and triggering other host-related reactions, including monocyte hypersensitivity and various immunological responses, periodontal diseases can inflict indirect harm. According to earlier studies, nearly one in four people had a personal history of periodontal disease and higher levels of an inflammatory marker that has been detected in heart valves and arteries that are prone to rupture.[11]The present study was conducted to assess knowledge ofpatients with cardiovascular disease.

We found that there were 95 males and 85 females. Cardiovascular condition was CAD in 45, arrhythmia in 36, hypertension in 74 and heart failure in 25. Marital status was married in 108 and unmarried in 72. In this study, Kumar et al.[12] evaluated the treatment requirements, oral hygiene habits, and oral health condition of 106 hospitalized patients in advance of cardiovascular surgery. A standardized questionnaire created specifically for this study was used to interview patients, and a dentist performed oral examinations. The study cohort's oral hygiene habits fell short of expectations. Infectious endocarditis was not well known to the patients. Dental caries, which includes damaged or missing teeth as a result of caries and filled teeth, affected about 68% of patients. The mean plaque index in the study group was 1.25. The average number of teeth in this study group having periodontal pockets larger than 6 mm was 0.5±0.9, whereas the average probing depth of periodontal pockets was 5.7±1.3. Eighty-four (74.2%) of the patients needed dental care.

We observed that oral health status was excellent in 17%, very good in 10%, good in 40%, fair in 30% and poor in 3%. Oral health problems were dental caries in 15%, tooth ache in 32%, sensitivity in 23%, bleeding gums in 5%, dry mouth in 10% and loose teeth in 15%. Importance of oral health compared to overall health was low importance (0–4) in 9%, neutral (5) in 15% and important to extremely important (6–10) in 76%. They used to brush teeth/denture few times a week in 18%, once a day in 22%, 2 or more times a day in 54% and never in 6%. Oral hygiene products used were fluoride toothpaste in 82%, dental floss in 18%, mouthwash in 19% and sugar free chewing gum in 15%. Last dental visit <1 year was seen in 74%, 1-2 years in 11% and >2 years in 15%. Sanchez et al.[13] investigated the knowledge, habits, and state of oral health of cardiovascular disease patients. Patients with cardiovascular illnesses were given a cross-sectional questionnaire with 31 items. 81.1% of the 318 patients who participated in the study said they had at least one oral health issue. 10.7% of participants had received any oral healthcare advice in the cardiac context, and more than a third (41.2%) had not visited a dentist in the previous 12 months. Compared to

people with other cardiovascular diseases, those with valvular conditions were more likely to have received information (40.6% versus 7.4%, $p < 0.001$). Merely 50% of the participants possessed sufficient knowledge about oral health. Many patients were not receiving oral health care and lacked information about oral health, even though there was a significant prevalence of reported oral health issues.

The shortcoming of the study is small sample size.

CONCLUSION

Authors found that low awareness of the significance of oral health and a high frequency of self-reported oral health issues were observed in individuals with CVD.

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