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(RESEARCH ARTICLE)

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Coronary heart disease in old age people

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Abstract

Background; The burden of coronary heart disease (CHD) worldwide is one of great concern to patients and healthcare agencies alike. Exercise-based cardiac rehabilitation aims to restore patients with heart disease to health.

Objective: To determine coronary heart disease in old age people

Methods: A cross-sectional study was conducted at First affiliated hospital of Xinjiang Medical University, Urumqi, Xinjiang, China which was performed between October 2022 to May 2024, The total number of patients in our study were 100. The number of Male patients in our study were 70 and female were 30. For all patients, we did diagnostic tests, (coronary angiogram, ECG, Echocaediography) boold test. We also took parameters of BMI (kg/m2). We excluded pregnant women and children in our study. Data was tabulated and analyzed by SPSS version 27.

Result: In a current study total 100 patients were enrolled. The minimum age of patients were 53 years and the maximum age of the patients were 81 years. The mean age were 62.35±7.016 years. The minimum BMI were 24 (kg/m2) and the maximum BMI were 39 (kg/m2). The frequency of chest pain symptoms were 75 and its percentage were 75 %. The frequency of shortness of breath symptoms were 25 and its percentage were 25%. P-value were less than < 0.04. The frequency of atherosclerosis were 85 and its percentage were 85%. The frequency of diagnose on coronary angiogram were 10 . the frequency of ECG were diagnosed in 35 patients and the frequency of echocardiogram were in 55 patients and its percentage were 55%. The frequency of treatment angioplasty were done in 85 patients and its percentage were 85%. The frequency of treatment on medication were done in 15 patients.

The frequency of major complication chest pain were in 13 patients and heart attack were in 7 patients and the frequency of no major complication were in 80 patients and its percentage were 80 %.

In our study P-Value were less than (< 0.05).

Conclusion: We concluded that Elderly patients with Coronary heart disease had higher risk of cardiovascular disease. Elderly coronary artery disease (CAD) patients, are similar to younger CAD patients. Patients of coronary heart disease can be diagnosed early and can save many lives. In our study males patients were more as compared to females.

Keywords: Ischemic heart disease (IHD); Cardiovascular disease (CVD); Coronary heart disease (CHD); Population attributable fraction (PAF) and Coronary artery disease (CAD)

1. Introduction

Globally, the main cause of death is ischemic heart disease (IHD). Globally, cardiovascular disease (CVD) is the primary cause of death for both men and women and a significant contributor to morbidity [1-2-3]. According to sizable global

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case-control research on AMI, risk estimates for traditional cardiovascular risk factors are generally comparable for men and women in different parts of the world [4]. In developed nations, CHD is a leading cause of death and disability [5]. Approximately one-third of all fatalities in those over 35 are caused by this illness, despite a progressive drop in mortality over the past few decades in western countries [6-7]. Non-communicable illnesses are growing in number and complexity. Modern health care systems face additional challenges as a result of rapid globalization, urbanization, aging populations, and an increase in chronic disorders [8–9]. During the two eras, the prevalence of MI was higher in males than in women, but it tended to reduce in the former with time, while women showed the reverse pattern [10]. Patients with CHD have a much higher prevalence of depression than the overall population [11]. The pathophysiology of vascular disease may be significantly influenced by inflammatory processes [12]. After controlling for non-fatal CHD events, the sex difference in diabetes-related risk for CHD remained constant across age and region-specific subgroups. Furthermore, it seems unclear that residual confounding is the cause of the observed sex difference because the level of attenuation of the age-adjusted summary risk estimates was moderate and equal for men and women. We have recently demonstrated that women with diabetes have an extra risk of stroke that is more than 25% higher than that of men [13-14]. the major risk factors' population attributable fraction (PAF) of CHD-related deaths. Tobacco, obesity, and physical inactivity continue to be significant contributors to CHD, although elevated blood pressure and cholesterol continue to be the main causes [15–16]. Because obesity and physical inactivity are known to be significant risk factors for coronary heart disease (CHD), changing these characteristics is thought to be an effective lifestyle strategy for preventing CHD [17]. After controlling for these factors, the correlation between BMI and the risk of CHD was somewhat reduced, but it was still statistically significant [18]. The risk of coronary heart disease (CHD) is increased in people with diabetes, but it is also slightly higher in people with prediabetes, which is defined as having fasting plasma glucose levels between 100 and 125 mg/dL [19]. Heart disease is the biggest cause of death for people over 65, and it can be difficult to diagnose and treat. There are numerous significant discrepancies in the treatment of younger patients with the same diagnosis and that of senior people with heart issues [20].

2. Material and methods

A cross-sectional study was conducted at First affiliated hospital of Xinjiang Medical University, Urumqi, Xinjinag, China which was performed between October 2022 to May 2024, The total number of patients in our study were 100. The number of Male patients in our study were 70 and female were 30. For all patients, we did diagnostic tests, (coronary angiogram, ECG, Echocardiography) boold test. We also took parameters of BMI (kg/m2). We excluded pregnant women and children in our study. Data was tabulated and analyzed by SPSS version 27.

- **Inclusive criteria:** Included all patients who have coronary heart disease
- **Exclusive criteria:** We excluded pregnant women and children.

3. Results

Table 1 Mean age, BMI, and Blood test (Cholesterol) of all the enrolled patients (*n=100*)

Variables	Minimum	Maximum	Mean±SD
Age (Years)	53	81	62.35±7.016
BMI (Kg/m2)	24	39	31.45±4.101
Blood Test (Cholesterol) mg/dl	43	71	52.80±7.652

In a current study total 100 patients were enrolled. The minimum age of patients were 53 years and the maximum age of the patients were 81 years. The mean age were 62.35±7.016 years. The minimum BMI were 24 (kg/m2) and the maximum BMI were 39 (kg/m2). The mean BMI were 31.45±4.101. The minimum blood test (Cholesterol) were 43 mg/dl and the maximum blood test (Cholesterol) were 71 mg/dl. The mean blood test (Cholesterol) were 52.80±7.652 mg/dl.

Table 2 Frequency and Percentage of Gender (n=100)

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
F	30	30.0	30.0	30.0
M	70	70.0	70.0	100.0
Total	100	100.0	100.0	

In the above table 2, the frequency of Female patients were 30 and the percentage were 30. The cumulative percent were the same 30. The frequency of male patients were 70 and the percentage were 70. Total number of patients were 100 (100 %) in our study.

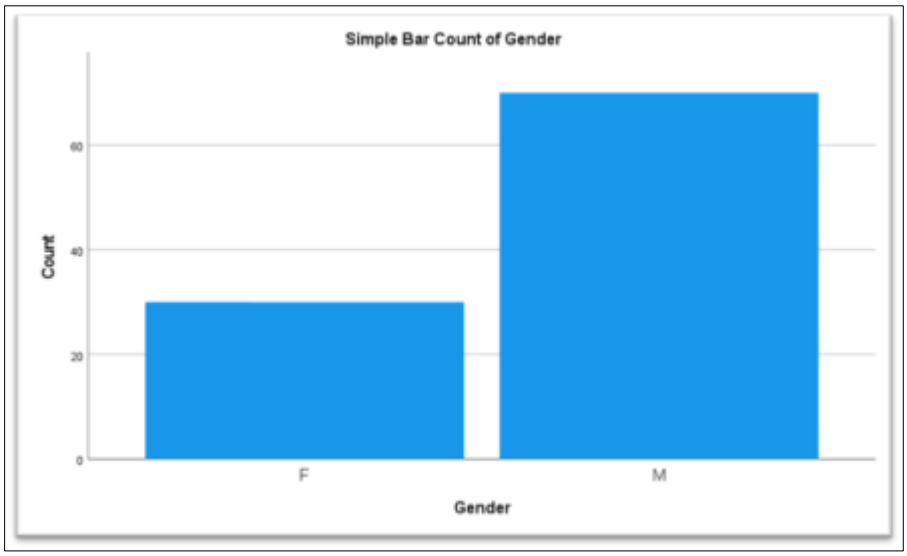

Figure 1 Bar chart of gender distribution

In Figure 1, we did a gender distribution, we can see the female and male patient frequency in the above bar chart.

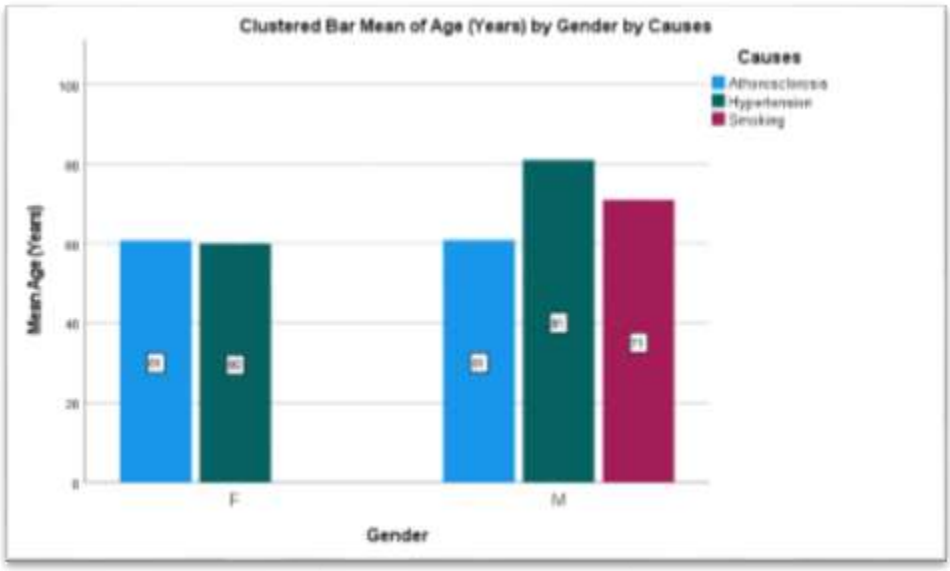

Figure 2 Cluster bar chart of mean age by gender distribution

In Figure 2, we can see the causes of coronary artery disease with patient's ages.

Table 3 Patient characteristics of enrolled patients (n=100)

Variables	Frequency	Percentage	P-Value
Symptoms			
Chest Pain	75	75.0	
Shortness of breath	25	25.0	0.04
Causes			
Atherosclerosis	85	85.0	
Hypertension	10	10.0	
Smoking	5	5.0	
Diagnose on			
Coronary angiogram	10	10.0	0.03
ECG	35	35.0	
Echocardiogram	55	55.0	
Treatment			
Angioplasty	85	85.0	
Medication	15	15.0	
Major Complications			
Chest Pain	13	13.0	
Heart attack	7	7.0	
NO	80	80.0	

The current study included a total of 100 patients with coronary artery disease whose characteristics are summarized in Table 3. The frequency of chest pain symptoms were 75 and its percentage were 75 %. The frequency of shortness of breath symptoms were 25 and its percentage were 25%. P-value were less than < 0.04. The frequency of atherosclerosis were 85 and its percentage were 85%. The frequency of hypertension were 10 and its percentage were 10%. The frequency of smoking were 5 and its percentage were 5%.

The frequency of diagnose on coronary angiogram were 10 . the frequency of ECG were diagnosed in 35 patients and the frequency of echocardiogram were in 55 patients and its percentage were 55%. P-Value were <0.03

The frequency of treatment angioplasty were done in 85 patients and its percentage were 85%. The frequency of treatment on medication were done in 15 patients.

P-Value were <0.05.

The frequency of major complication chest pain were in 13 patients and heart attack were in 7 patients and the frequency of no major complication were in 80 patients and its percentage were 80 %.

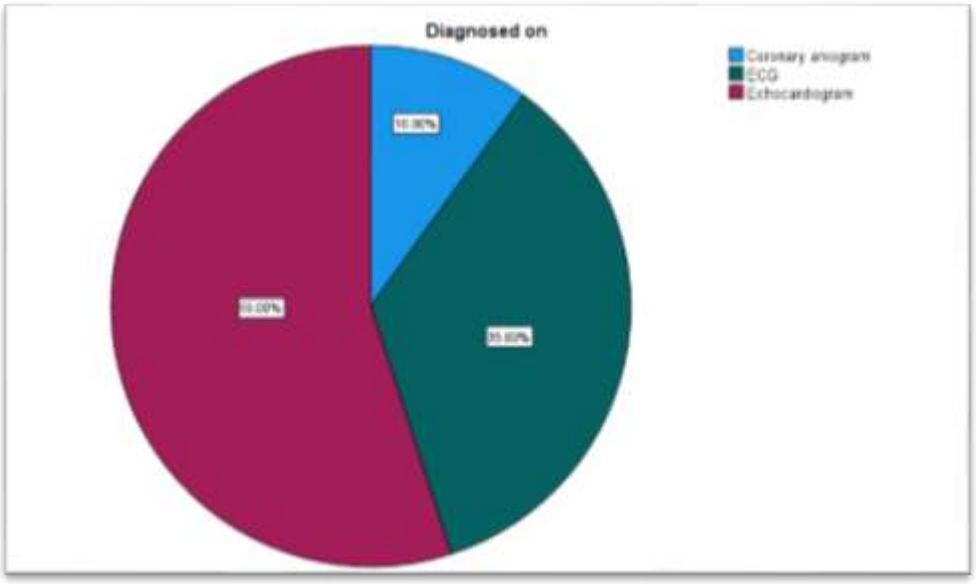

Figure 3 In Figure 3 we can see the percentage of diagnosed patients on ECG, Echocardiography and coronary angiogram

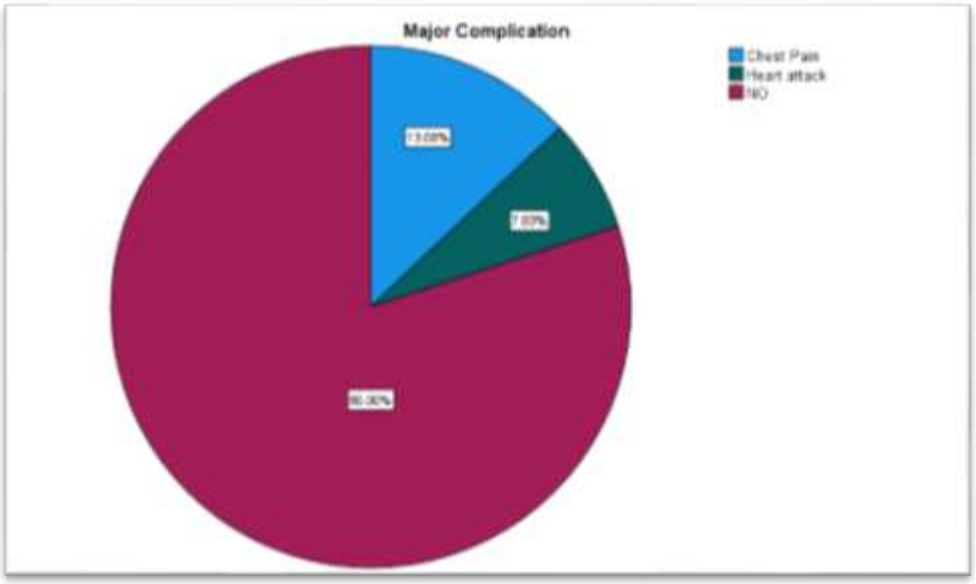

Figure 4 In figure 4 we can clearly see the major complication percentage of patients chest pain, Heart attack and no complication

4. Discussion

Numerous studies on middle-aged white men have identified diabetes mellitus, cigarette smoking, high blood pressure, and high cholesterol as risk factors for coronary heart disease. In elderly groups and women, fewer observations have been documented [21–22]. Based mostly on population research in middle-aged white males and bolstered by observations in smaller groups of white women, diabetes mellitus is recognized as a risk factor for coronary heart disease. However, compared to younger patients, a smaller percentage of older individuals received EBMs. Higher EBM compliance was associated with a lower risk of death for patients. For patients with CAD, age is a significant risk factor for a poor prognosis [23]. The ability to survive cardiovascular events decreases with age and organ aging, but older patients frequently receive medications that are insufficiently effective due to worries about side effects and drug tolerance, which leads to a bad prognosis [24]. Elderly people' physical status are constantly changing. Patients over

80 are believed to be less proficient in using EBMs than younger patients since CAD is a chronic condition that necessitates complex drug dose adjustments and maintenance for long-term compliance [25].

5. Conclusion

We concluded that Elderly patients with Coronary heart disease had higher risk of cardiovascular disease. Elderly coronary artery disease (CAD) patients, are similar to younger CAD patients. Patients of coronary heart disease can be diagnosed early and can save many lives. In our study male patients were more as compared to females.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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