

Public Awareness About Coronary Artery Disease

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Abstract: Coronary artery disease is a general term for conditions affecting the heart or blood vessels. It is one of the Major cardiovascular disease affecting the global human population. This disease has been proved to be the major cause of death in both the developed and developing countries. It's usually associated with a build up of fatty deposits inside the arteries (atherosclerosis) and an increased risk of blood clots and this coronary heart disease occurs when the flow of oxygen rich blood to the heart muscle is blocked or reduced.

Key Words: Cardiovascular disease, Atherosclerosis, Plaque buildup, Cholesterol deposit

Introduction

Coronary artery disease (CAD) is one of the major cardiovascular diseases affecting the global human population. This disease has been proved to be the major cause of death in both the developed and developing countries. Lifestyle, environmental factors, and genetic factors pose as risk factors for the development of cardiovascular disease. The risk factors of CAD include diabetes mellitus, hypertension, smoking, hyperlipidemia, obesity, homocystinuria, and psychosocial stress. Antiplatelet agents, nitrates, β -blockers, calcium antagonists, and ranolazine are some of the few therapeutic agents used for the relief of symptomatic angina associated with CAD [1].

Coronary artery disease (CAD), also known as coronary heart disease, develops when the heart's blood supply is blocked or interrupted by a build-up of fatty substances (plaque) in the coronary arteries. CAD is the most common cardiovascular disease and remains the leading cause of cardiovascular morbidity and mortality globally . The most common symptom of CAD is angina (chest pain and discomfort). CAD is the main cause of heart attack (also known as myocardial infarction). Most heart attacks happen when a blood clot suddenly blocks the hearts' blood supply, causing heart damage. Over time, CAD can also weaken the heart muscle and may lead to heart failure or arrhythmias. People are considered to have stable CAD if they are asymptomatic or if their symptoms are controlled by medications or revascularization [2].

Patients with chronic kidney disease (CKD) are at increased risk of coronary artery disease (CAD) and adverse cardiac events. Screening for CAD is therefore an important part of preoperative evaluation for kidney transplant candidates. There is significant interest in the role of non-invasive cardiac investigations and their ability to identify patients at high risk of CAD [3].

Ischemic heart disease, also known as coronary artery disease, is the biggest component of cardiovascular disease. According to a report from the World Health Organization, in 2018, ischemic heart disease caused 9.46 million deaths, which makes it the most common cause of death globally (WHO). Moreover, this number will keep increasing, along with the associated expenses. The most common cause of ischemic heart disease is atherosclerosis, which leads to coronary artery stenosis and obstruction. Coronary artery stenosis may involve any of the three coronary arteries; the left anterior descending branch (LAD), the left circumflex branch (LC), and the right coronary artery (RCA). We refer to stenosis as one, two, or three vessel coronary disease, depending on the number of branches involved. Obstruction of more than 70% of a

coronary artery results in a lack of oxygen, leading to angina, especially when people are under mental stress or participating in physical activities[4]

Heart disease is the most common cause of ill health and preventable death. Cardiac rehabilitation is a programme that helps people with heart disease gain better health. It is held in group classes that take place at hospitals or within the community. People attend these classes once or twice a week for around six to eight weeks. The classes usually involve exercising, and receiving advice on ways to improve their health. People needing these programmes are not always able to attend them. An alternative is to provide this programme through the Internet. In this review we looked at whether programmes delivered through the Internet are helpful in improving death rates, the need for surgery, repeated heart attacks, cholesterol levels, blood pressure, health-related quality of life, diet, physical activity, medication compliance, healthcare usage, and costs.[5,12]

Patients with known cardiovascular disease who have not had a recent acute event are often referred to as having stable coronary artery disease (CAD). The concept of 'stable' CAD is misleading for two important reasons: the continuing risks of cardiovascular events over the longer term and the diverse spectrum of powerful risk characteristics [6]. Coronary artery disease is the leading global cause of mortality. Long recognized to be heritable, recent advances have started to unravel the genetic architecture of the disease [7].

Despite advances in the diagnosis and treatment of coronary artery disease (CAD), gender-related disparities continue to exist, and ischemic heart disease mortality in women remains higher than in men. This review will highlight gender-specific differences in the treatment of CAD that may impact outcomes for women. Further studies are needed to clarify the unique pathophysiology of CAD in women and, in turn, create more specific guidelines for its diagnosis, management, and treatment in this patient population [8,11].

Enhanced survival following acute myocardial infarction and the declining prevalence of hypertension and valvular heart disease as contributors to incident heart failure (HF) have fueled the emergence of coronary artery disease (CAD) as the primary risk factor for HF development. Despite the acknowledged role of CAD in the development of HF, the role of coronary revascularization in reducing HF-associated morbidity and mortality remains controversial. The authors review key features of the epidemiology and pathophysiology of CAD in patients with HF as well as the emerging data from recent clinical trials that inform the modern approach to management.[9,13]

With ongoing progress in the prevention and treatment of coronary artery disease (CAD), a continued decrease in prevalence and lethality is expected in high-income countries. Prevention will include lipid-lowering, antithrombotic and anti-inflammatory therapies. With respect to the former, potent, safe and prolonged drugs (such as generic forms of PCSK9 inhibitors relying on monoclonal antibodies or miRNA) should result in a decreased incidence of acute coronary syndromes. Another key aspect will be the ability to identify genetic predictors of CAD and therefore implement targeted personalized prevention early in life. Curative treatment will involve a short course of potent and reversible anti-thrombosis, but long-term therapy will rely on the ability to stabilize or even regress plaque (Example using PCSK9 inhibition or modified high-density lipoprotein infusions or anti-inflammatory therapies). Antithrombotic therapy will rely on highly reversible agents (or agents with specific titratable antagonists), and on personalized therapies in which the doses, combinations and duration of therapy will be determined differentially for each patient on the basis of clinical characteristics, genetic profiling and biomarkers. Finally, the need for revascularization in stable CAD will be rare, given the expected progress in prevention. The main challenge, 20 years from now, is likely to be the provision of such effective care at acceptable costs in low- and middle-income countries [10].

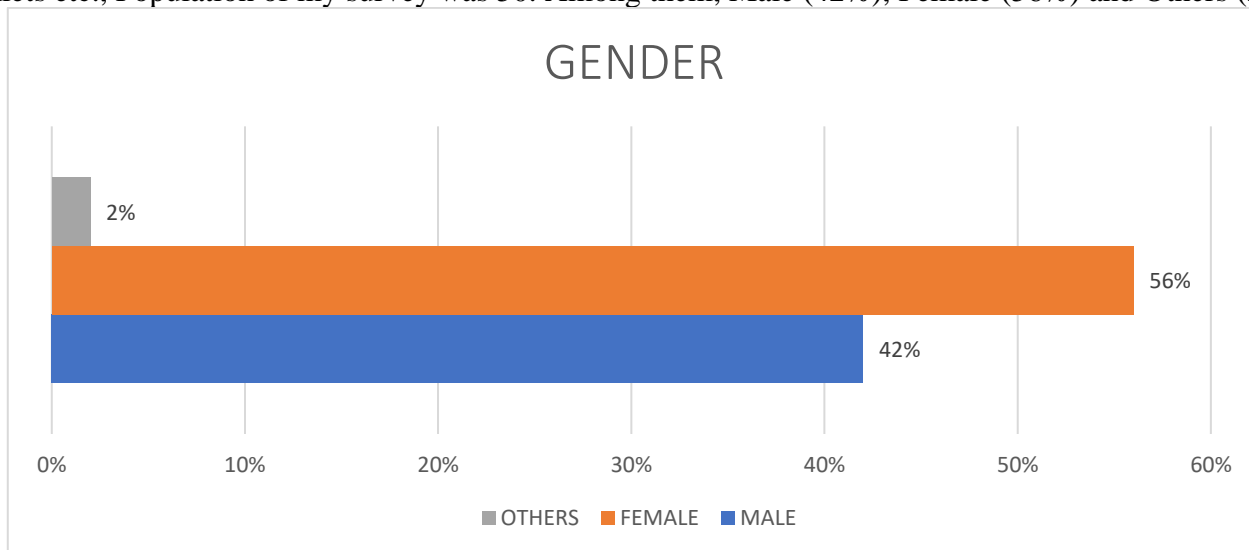
Materials And Methods

I chose the city of Tashkent, Uzbekistan and Kerala, India to know the awareness of people in the place where I'm doing my education and my birth place. I started my survey through Google Form (online). I conveyed my survey to my participants through social media like WhatsApp, Telegram & Instagram. The population of my survey was 50. Among 50, 1 set of survey questionnaire was incomplete. The search for literary sources was carried out using the bibliographic databases Web of Science, Scopus, DBLP, PubMed.

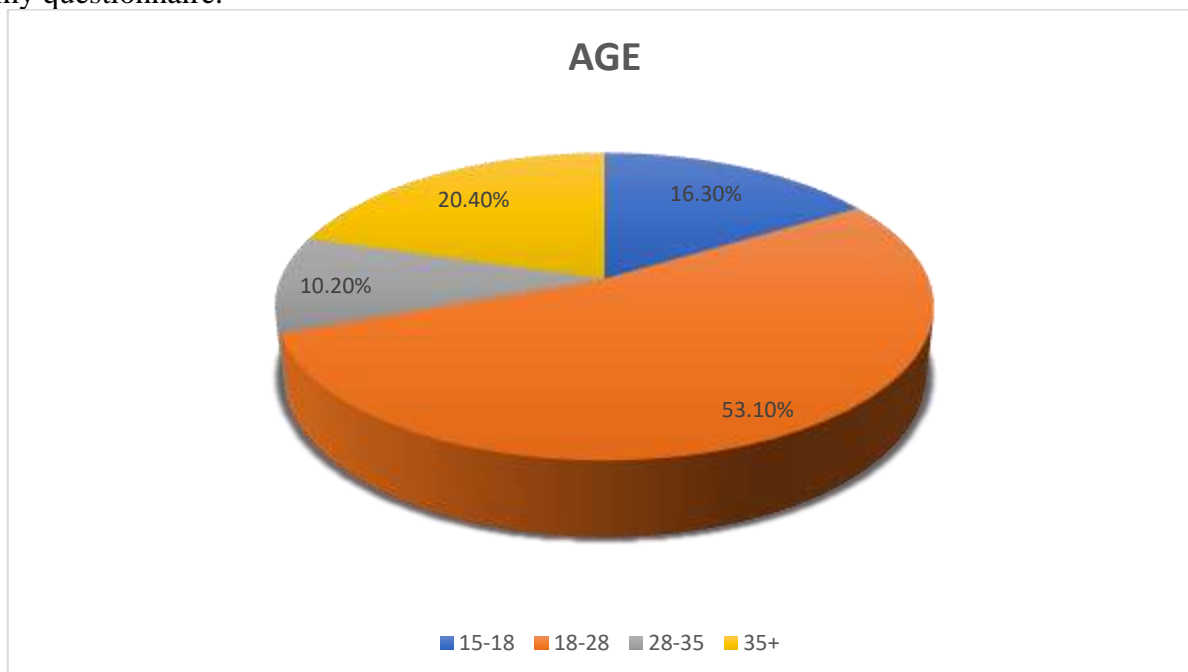
When selecting sources, they paid attention to experimental articles, literary reviews, the number of their citations over the past year.

Results

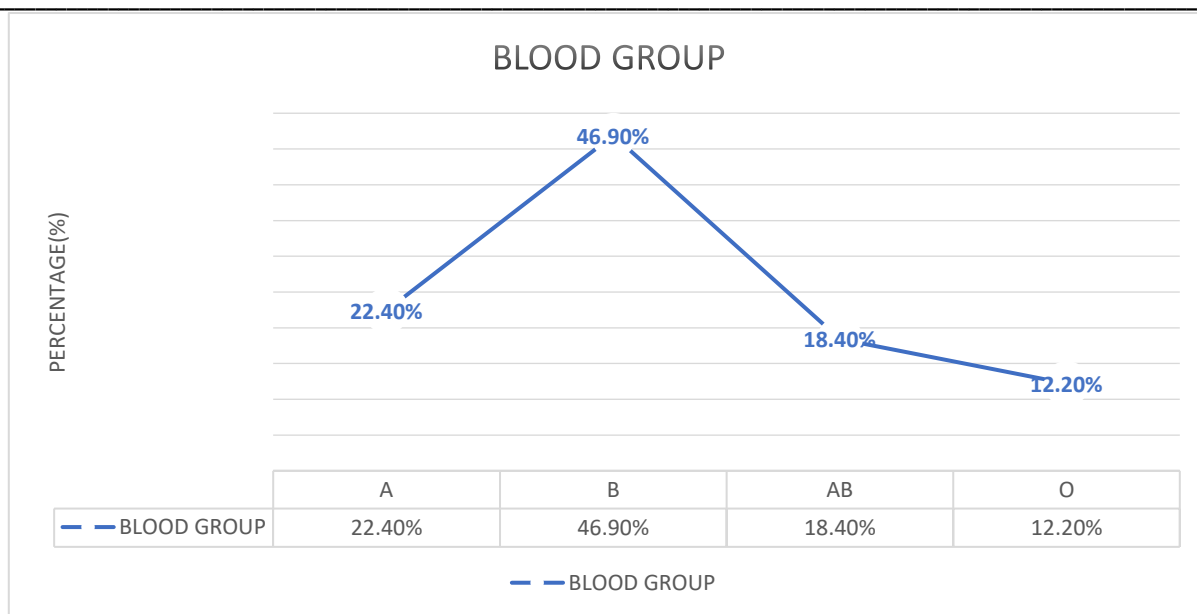
The survey were created using the information I got through e-library, communication technologies, booklets etc., Population of my survey was 50. Among them, Male (42%), Female (56%) and Others (2%).



The age of my respondents were mostly between 18-28 (53.1%) followed by 35+ (20.4%), then 15-18 (16.3%) and finally 28-35 (10.2%). The reason for this result is due to most of the young people tried to attend my questionnaire.

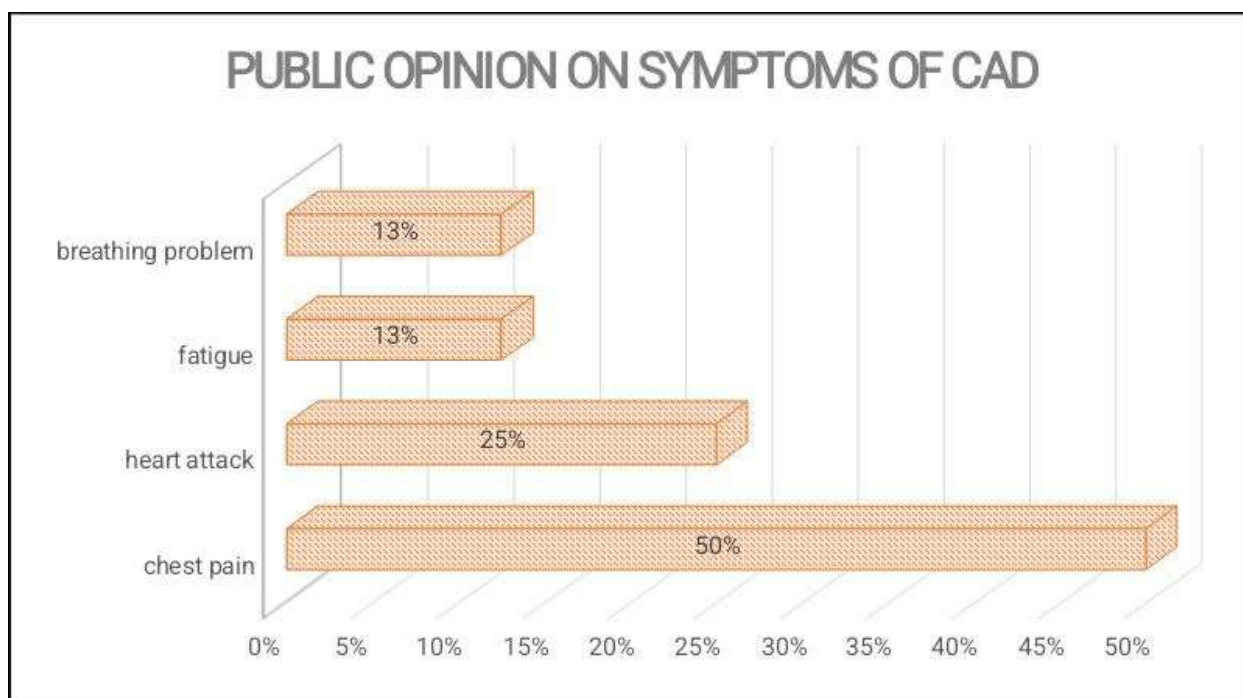


In my survey, the participants were under the blood group as the chart represented below :



The public opinion on symptoms of CAD(coronary artery disease) given below.

TABLE №-1



CAUSES	SMOKING	DIABETES	CHOLESTEROL DEPOSIT	OBESITY
What is the main cause	24.5%	10.2%	57.1%	8.2%
Age group	10-20	20-30	30-40	40+
What age group is most affected by cad	12%	20%	24%	44%

Table№1 The people’s response about main cause of CAD is mostly cholesterol deposit the percentage is 57.1 then 24.5% is about smoking and then diabetes (10.2%)and obesity (8.2%)

People respond like 40+ age group is most affected by CAD then 30-40 age group then 20-30 and finally 10-20.

Table №2

	Yes	No	Maybe
Any genetic link to cad	31.3%	41.7%	27.1%
Treatments	Coronary angioplasty	Coronary artery bypass	Stent replacement
More effective treatment for cad	53.1%	32.7%	14.3%

Table №2 In these we can see the people’s responses about genetic link connection and effective treatment.

Table №3

Symptoms	Difficulty in breathing	Chest pain	Fatigue	Stress
Have you experienced these symptoms	26.1%	30.4%	15.2%	28.3%

Table№-3 In This case we can see most of the people experienced chest pain (30.4) then stress (28.3%) and 26.1% people’s experienced difficulty in breathing and fatigue is 15.2%.

Table №4

Measures	Changing lifestyle	Take treatment	Both
What you will do to overcome from cad	33.3%	8.3%	58.3%

Table№-4 We can see here to overcome from CAD the least amount of people only choose only take medicine (8.3%)and some of the people choose to change lifestyle (33.3%) but most of the people choose to do both (58.3%).

Discussion

I understand that survey is a very efficient method that can be used to identify people’s idea and opinion about a matter. In this survey I tried to find out how aware people are about CAD. What I understand from this is that most people choose what I expected. However, some of the people do not have much understanding about this. There is a need to further develop a proper understanding of CAD in the growing community. One of the questions in my survey was whether you have experienced certain symptoms and I found out that most people have experienced chest pain which is the main symptom of CAD. So I felt that people should be more aware of the effective ways to prevent and get rid of this disease. I chose two countries to collect information about CAD.

Conclusion

I chose Uzbekistan and India for the survey, According to Indians are liable to get hospitalized 2–4 times more frequently for complications of CAD, in comparison with other ethnic groups, and admission rates are 5–10 times higher for populations younger than 40 years. The prevalence of CAD in Indians living in India is 21.4% for diabetics and 11% for nondiabetics. The prevalence of CAD(coronary artery disease).

According to the latest WHO data published in 2020 Coronary Heart Disease Deaths in Uzbekistan reached 69,725 or 43.19% of total deaths. The age adjusted Death Rate is 354.54 per 100,000 of population ranks Uzbekistan #3 in the world.

When we compare these two countries we can see that Uzbekistan has the highest mortality rate due to CAD. But India is not bad either. Many people die from CAD in India too. So there is definitely a need to do things to create more awareness about CAD in these two countries that I have chosen.

Acknowledgement

Recommendations

- Change the lifestyle (Such as not smoking, eating healthy and exercise more)
- Make people more aware about CAD(Especially among people aged 40+)
- Keep the diabetes under control (If you have diabetes, your target blood pressure level should be 130/80mmHg).

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