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Research Article

Medical survey on Cardiovascular Disorders

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ABSTRACT

Recent studies in India indicate raising trends of cardiovascular disorders like hyper tension, angina pectoris, myocardial infarction, congestive heart failure and cardiac arrhythmia. Even in rural areas continuous monitoring of the cardio vascular disorders situation is required by repeated cross sectional studies in both urban, rural to plan control measures. Aim of the study to make a survey on cardio vascular disorders in local hospitals of aroghya and spandana hosipital in khammam. A cross sectional study was carried out in khammam region in the rural field practice area of Mother Teresa Pharmacy College in Sathupally, India. All adults and olders of both genders were included and screened for cardio vascular disorders by hospital survey. Conclusion: It was observed that cardiovascular disorders can be treated within time and proper medication. Awareness should be created among the population regarding prevention of cardiovascular disorders. Even though proper medication are there, in some cases like heart attack and congestive heart failure the death rate is very high. This is because the patient is not able to reach the hospitals in time, not changing their life style modifications, continuing their habits like smoking and alcohol consumption and lack of frequent medical checkups. Hence the sincere advise to all the patients those are in the risk of cardiovascular disorders must have to keep the corresponding medicines like nitroglycerine tablets (Isosorbide dinitrate) with them of their pocket every time, avoiding of their habits of smoking and alcohol consumption, intake of low calorie diet and maintain their regular medical checkups.

Keywords: Cross sectional study, Cardiovascular Disorders, Smoking and Alcohol consumption

INTRODUCTION

The term Cardiovascular Disease (CVD) refers to any disorder of the heart and blood vessels which includes Hypertension, Coronary Artery Disease (CAD), Cardiac Arrhythmia, Cerebrovascular Disease, Valvulars Heart Disease, Cardiomyopathy, peripheral vascular disease, congenital cardiac abnormalities, Angina Pectoris, Congestive Heart Failure (CHF) and Myocardial Infarction. Each disorder has been characterized epidemiologically incidence and prevalence rates vary widely by country and culture. Because Hypertension, Congestive Heart Failure, Cardiac Arrhythmia, Angina Pectoris, Myocardial Infarction account for the majority of cardiovascular morbidity and mortality in developed countries, those topics are the focus of this chapter. The modifiable risk factors include tobacco use, high blood pressure, physical inactivity, high blood cholesterol, obesity, heavy alcohol consumption, and poor nutrition. Non-modifiable risk factors are age and family history. For each of the disease categories, the epidemiology, etiology, risk indicators and primary prevention, diagnostic assessment and treatment and prognosis are discussed.

Above scenario the medical survey on Cardiovascular Diseases like Hypertension, Angina pectoris, Myocardial infarction, Congestive Heart Failure Cardiac Arrhythmia.

1. Hypertension:

Hypertension is defined as the abnormally raised arterial blood pressure. The systolic pressure may increases up to 150 mm/hg and diastolic pressure increases to 100 mm/hg. This is the common disease to affect the most of the peoples. Hypertension was caused due to physical inactivity, family history and diabetes. It was treated by using drugs like beta blockers (Atenolol), calcium channel blockers (Nifedipine) and ACE inhibitors (Captopril). And it was prevented by life style modification and maintains proper medication.

2. Angina Pectoris:

Angina pectoris is defined as the chest pain or pressure .usually due to the insufficient flow of oxygenated blood to the heart muscle. This is caused due to the anemia, alcohol consumption, arrhythmia and hypertension. It was treated by using drugs like nitrates, beta blockers, calcium channel

blocker, potassium channel Opener and it is modified by life style changes and maintain proper medication.

3. Myocardial Infarction:

Myocardial infarction is also known as heart attack. When decreases or stop the blood flow to the part of the heart or damage to the heart muscle, myocardial infarction is caused due to the hypertension, anginapectoris and heavy alcohol consumption. It was treated by using drugs like statins, beta blockers, ACE inhibitors, Aldosterone antagonists. And it is modified by life style changes and maintains proper medications.

4. Cardiac Arrhythmia:

Cardiac arrhythmia is defined as abnormal rhythm of heart beat. The heart beat may be increase or decrease. Cardiac arrhythmia was caused due to heart failure, cardiomyopathy, myocardial infarction and alcohol consumption. It was treated by given drugs like calcium channel blockers (Diltiazem), amidarone. It is modified by life style changes and maintains proper medications.

5. Congestive Heart Failure:

Congestive heart failure is also known as heart failure. It is referred to as when the heart is unable to pump sufficiently to maintain blood flow to the body. It causes due to Angina Pectoris, Myocardial Infarction, Arrhythmia Hypertension, and Cardiomyopathy. It is treated by using drugs like cardiac glycosides sympathomimetics, ACE inhibitors, Diuretics, beta adrenergic blockers. Congestive Heart Failure was prevented by avoid alcohol; avoid smoking, life style modifications and proper medication.

MATERIALS AND METHODS

Permission from hospital to investigate the Cardiovascular Disorder patients

To carry out the study we got permission from the college principal, the no objection with, and requesting letter to the M.F Gopinadh. M.D, D.M, from Spandana hospital and P. Subbarao M.D, D.M from Arogya hospital were submit to carry out the study.

Type of study

Cross sectional community study in Khammam region.

Study design

A cross-sectional population-based study.

Study area

The study was conducted in the rural area of Khammam, Khammam dist, TS, India. The Urban field practice area is located in the city of Khammam, totaling a population of **553,060 (estimated)**.

Sampling

Two Hospitals in the urban field practice area were selected. Two hospitals were selected due to their proximity to the urban health center to facilitate treatment and follow up of the detected cases. In these cities, all eligible adults of both genders were screened for cardiovascular disorders by hospital survey.

Interview and data collection

On visiting the hospitals; all Cardiovascular Disorders patients invited to participate in the study and were offered to sign a written consent form. All those who agreed were included in the study. Data were collected from the study participants by face to face interview and physical

examination on a pretested structured instrument. Physical examination included anthropometry (height, weight, waist circumference, and hip circumference), blood pressure measurements in sitting position, and general examination.

Different Material & Equipments

Methods of measuring the parameter:

Study area

The study was conducted in the urban field practice area of khammam region, Telangana, India. The urban field practice area is located about 70 km from the city of Sathupally selected a population of **500** members.

Sampling

Around khammam region, we have done survey on 500 heart patients in these villages, all eligible adults of both gender were screened for cardiovascular patients by hospital survey.

Interview and data collection

Age: By asking the heart patient information.

Gender: By physical identification of a person.

Hypertension: By measuring B.P and by observing patients medication.

High cholesterol: By examine patient medication.

RESULTS

Causative Factors: According to this study we have identified different causative factors for their Angina Pectoris, Myocardial Infractions, Congestive Heart Failure Hyper Tension and Cardiac Arrhythmia are causative factors for cardio vascular diseases.

Causative Factors for cardio vascular diseases

Risk factor	No of patients
Cigarette smoking	375
Diabetes	400
High cholesterol	320
High blood pressure	485
Sedentary life style	456
Family history of premature heart disease	258

Associated risk factors for cardiac diseases:

Causes	No. Of Patients
Lack of physical exercise	250
Alcohol or smoking or both	100
Improper diet	75
Heredity	50
Improper life cycle	25

Prevention:

► Lifestyle changes and eating diet free from saturated fat is must to avoid cholesterol formation in the coronary blood vessels

► Avoiding of alcohol consumption and cigarette smoking

► Excess body weight is the most common cause of angina attack hence weight should be always be under control

Treatment:

1.   Angina Pectoris:

The most specific medicine to treat angina is nitroglycerin. It is a potent vasodilator that decreases myocardial oxygen demand by decreasing the heart's workload. Beta blockers and calcium channel blockers act to decrease the heart's workload and thus its requirement for oxygen. Nitroglycerin should not be given if certain inhibitors such as sildenafil, tadalafil, or vardenafil have been taken within the previous 12 hours as the combination of the two could cause a serious drop in blood pressure. Treatments for angina are balloon angioplasty, in which the balloon is inserted at the end of a catheter and inflated to widen the arterial lumen. Stents to maintain the arterial widening are often used at the same time. Coronary bypass surgery involves bypassing constricted arteries with venous grafts. This is much more invasive than angioplasty.

2.   Myocardial Infarction:

Aspirin is continued indefinitely, as well as another antiplatelet agent such as clopidogrel or ticagrelor ("dual antiplatelet therapy" or DAPT) for up to twelve months. If someone has another medical condition that requires anticoagulation (e.g. with warfarin) this may need to be adjusted based on risk of further cardiac events as well as bleeding risk.

3.   Congestive Heart Failure:

First-line therapy for people with heart failure due to reduced systolic function should include   angiotensin receptor blockers are the change the enzyme and it also converting enzyme (ACE) inhibitors (ACE-I) or angiotension receptor blockers (ARBs) if the person develops a long term cough as a side effect of the ACE-I. Use of medicines from this class is associated with improved survival and quality of life in people with heart failure.

Beta-adrenergic blocking agents (beta blockers) also form part of the first line of treatment, adding to the improvement in symptoms and mortality provided by ACE-I/ARB. The mortality benefits of beta blockers in people with systolic dysfunction who also have atrial fibrillation (AF) is more limited than in those who do not have AF. If the ejection fraction is not diminished (HFpEF), the benefits of beta blockers are more modest; a decrease in mortality has been observed but reduction in hospital admission for uncontrolled symptoms has not been observed.

4. Hypertension:

► Beta-blocker is one of a drug used to reduce hypertension. It works by making our heart beat more slowly and with less force, thereby reducing blood pressure. But they are found to be less effective than other treatments.

► Calcium channel blockers are very helpful because they keep calcium from entering the muscle cells of the heart and blood vessels. This method widens the arteries and reduces the blood pressure.

► Angiotension-converting enzyme (ACE) inhibitors have a dual mode of action. They prevent the formation of angiotension-II, the active vasoconstrictor of Renin-angiotension-aldosterone system (RAAS) and they decrease the metabolism of vasodilator bradykinin increasing its availability. These drugs are mostly well tolerated except for the occasional cases of non-dose dependent side effects of cough and angioedema seen sporadically in patients.

5. Cardiac arrhythmia:

► Beta-blockers for high blood pressure.

► Street drugs such as cocaine, marijuana and "speed" or methamphetamines.

► Control cholesterol levels

► Lose excess weight

► Eat a heart-healthy diet

► Avoid tobacco smoke

► Enjoy regular physical activity

CONCLUSION

By performing this intensive survey. We selected the cardiovascular disorders as a topic of our survey. We collected the literature on the cardiovascular disorders and did a wide survey from different cardiac centers (hospitals) in that we enquire about their medical history, food habits, complications of diseases and the medications are using. With this medical survey we concluded that the main reasons for getting the cardiovascular disorders: Lifestyle, Smoking and alcoholism, Lack of frequent medical checkups. We observed that even the patients are suffering with these cardiovascular disorders. They are not at all changing their lifestyle, food habits and no regular medical checkups. These things lead to the increases cardiovascular related death rate. Hence the sincere advise to all the patients those are in the risk of cardiovascular disorders must have to keep the corresponding medicines like nitroglycerine tablets (Isosorbide dinitrate) with them of their pocket every time, avoiding of their habits of smoking and alcohol consumption, intake of low calorie diet and maintain their regular medical checkups.

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