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ASSESSMENT OF DRUGS PRESCRIBED IN CARDIOVASCULAR DISEASES IN A TERTIARY CARE TEACHING HOSPITAL

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ABSTRACT

The study was aimed to determine the drugs prescribed in cardiovascular diseases and assess patient knowledge. A prospective observational study was carried out in 100 patients in a tertiary care teaching hospital over a period of 6 months, by collecting patient data from the medical records of patients from Cardiology and General Medicine department. Standard data entry form and patient information leaflets were utilized. By the analysis of prescribed drugs revealed that use of Antiplatelets (18.33%) and Beta blockers (16.66%) were significantly higher than other drugs prescribed such as ACE inhibitors (14.66%), Antihyperlipidaemics (13.33%), Calcium Channel Blockers (6.66%). For improving life style, the patients were counselled with patient information leaflets. The current study has assessed a total of 100 patients. During this study period, the drugs prescribed for cardiovascular diseases were analyse. The most commonly prescribed drugs were Antiplatelets (18.33%), beta-blockers (16.66%), ACE inhibitors (14.66%) and Anti hyperlipidaemia agents (13.33%). The patients were provided with patient information leaflets and advised regarding diet & exercise.

KEYWORDS: Cardiovascular diseases, Drugs in cardiovascular diseases, Patient Information Leaflets.

INTRODUCTION

Cardiovascular diseases are a group of disorders of heart and blood vessels. According to WHO, heart disease is one of the major health burdens that lead to death worldwide. An estimation states that 23.3 million people will die due to cardiovascular disease by 2030. Risk factors include family history, age, sex, smoking, alcohol consumption, abnormal lipid level,

high blood pressure, high blood glucose, psychosocial factors, physical inactivity, obesity, poverty & low educational status.

Existing cardiovascular disease or a previous cardiovascular event such as heart attack or stroke is the strongest predictor of a future cardiovascular event. Age, sex, smoking, blood pressure, blood lipids and diabetes are important predictors of future cardiovascular disease in people who are not known to have cardiovascular disease. These measures may be combined into composite risk scores to estimate an individual's future risk of cardiovascular disease.

Besides blood tests and chest X-ray, tests to diagnose heart disease are Electrocardiogram (ECG), Holter monitoring, Echocardiogram, Cardiac catheterization, Cardiac Computerized Tomography (CT) scans, Cardiac Magnetic Resonance Imaging (MRI).

Management of the disease includes efforts in reducing and removing any risk factors. Patients should be aware of their risk factors and must have appropriate perception of their disease process. Adherence to healthy food and lifestyle recommendations has an essential role in its prevention. A low-fat, high-fibre diet including whole grains, fruits and vegetables reduce risk by about 25%, tobacco cessation, limit alcohol consumption, lower blood pressure if elevated, decrease non-HDL cholesterol, decrease body fat if overweight or obese, increase daily activity to 30 minutes of vigorous exercise per day at least five times per week, reduce sugar consumptions and decrease psychosocial stress.

Medications like aspirin have been found to be of only modest benefit in those at low risk of heart disease as the risk of serious bleeding is almost equal to the benefit with respect to cardiovascular problems. Statins are effective in preventing further cardiovascular disease in people with a history of cardiovascular disease. In those without cardiovascular disease but risk factors statins appear to also be beneficial with a decrease in the risk of death and further heart disease.

In this study, we evaluated the drugs prescribed for cardiovascular diseases as well as assessed patient knowledge about cardiovascular drugs in order to increase their knowledge and educate them through patient counselling & patient information leaflets.

MATERIALS AND METHODS

The study was conducted in a multispecialty tertiary care hospital, in the cardiology and general medicine department. A total of 100 patients were enrolled in the study. The study

was designed to be a prospective observational study, carried out in single centre for a period of 6 months. The sample population was selected by inclusion–exclusion criteria. In-patients of cardiology and general medicine department aged 21-80 years who communicated well without any perception problems were included in the study. Patients below 21 years and above 80 years with difficulty in answering the questionnaire, patients who were admitted in wards other than cardiology and general medicine department and patients with special conditions like pregnancy were excluded from the study.

Patients who got admitted to cardiology and general medicine department having cardiac related problems were screened and documented in standard data entry form. It included patient demographics, past medication history, lab investigation reports, diagnosis, drugs prescribed and existing co morbidities. Drugs prescribed for cardiovascular diseases were evaluated.

At the time of admission patients were provided with pharmaceutical care through patient information leaflets. It included life style modifications such as exercise, proper diet and medications. Details regarding the prescribed drugs and mode of administration were also provided.

RESULTS AND DISCUSSION

This study revealed that co morbid disease was the most prevalent in male with 52% and in females it was found to be 32%. About 16% of patients did not have any type of comorbidity.

It has been found that about 26% of the population had three risk factors, followed by 19% had two risk factors. About 25% of the population were found to have one Co-morbidity and 11% were having four Co-morbidities. Only 2% comes under five Co-morbidities, and 1% was in the category of 6 Co-morbidities. About 16% were not having any Co-morbidities.

The past medical history studies shows that about 29.72% of males and 27.02% of females had Hypertension followed by 17.11% of males and 21.62% of females had Diabetes Mellitus. Another past medical history was CAD and MI which had a value of 11.71% in males and 16.21% in females & a value of 11.71% in males and 5.40% in females respectively. The past history for Dyslipidaemia was about 9.90% in males and 12.16% in females. About 1.80% of the males and 4.05% of females had stroke followed by 1.35% of females were found to have angina. Other past medical history diseases such as Respiratory

diseases, Parkinson's disease, Renal diseases, peptic ulcer constituted about 18.01% in males and 12.16% in females.

28% of males and 20% females had a known cardiac history. About 52% of the patients did not have any cardiac history About 34.12% of males and 16.84% of females had CAD followed by 19.04% of males and 12.63% of females had MI. About 11.90% of males and 10.52% of females had Respiratory diseases. There were 7.93% of males and 14.73% of females who had Hypertension followed by 7.14% of males and 12.63% of females who had Diabetes Mellitus. In case of Stroke, it was about 4.76% of males and 5.26% in females. About 3.96% of males and 2.10% of females were found to have Dyslipidaemia followed by 1.58% of males and 2.10% of females were found to have Angina. Another diagnosis is Renal diseases which was about 1.58% in males and 1.05% in females followed by Parkinson's disease which was about 2.10% only in females. Diagnosis such as Peptic ulcer, GERD, Anaemia, UTI was about 7.93% in males and 20% in females.

In the study population, total 10 categories of drugs were prescribed. Among this 18.33% were Antiplatelets and 16.66% were Beta blockers. About 14.66% of ACE inhibitors were prescribed. Next category of drug was Antihyperlipidaemic agents; it was about 13.33%. Only 6.66% of CCB were prescribed for the patients. ARB was given as 4.33%. About 2.66% of Anticoagulants were prescribed. 18.33% were found to be Anti diabetics followed by 1.66% anti anginal drugs. Other category of drugs which include antibiotics, antacids, vitamins, anti-anxiety drugs constituted about 13.33%.

Percentage distribution of comorbidity based on gender

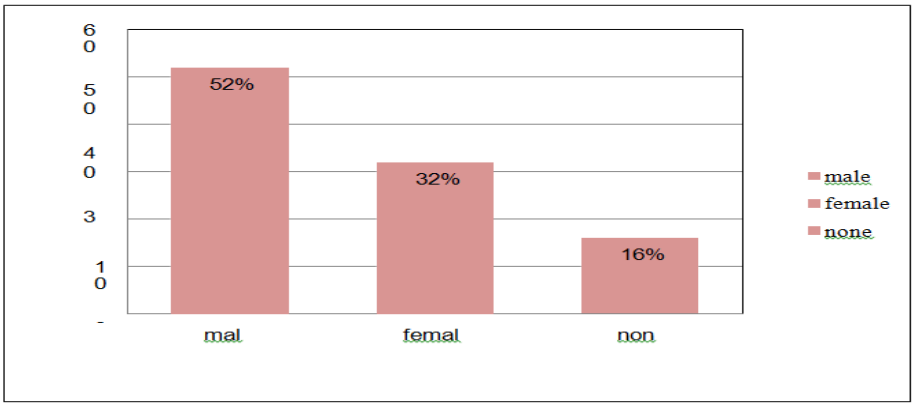

Figure 1: Percentage distribution of comorbidity based on gender.

Percentage distribution based on number of comorbidity

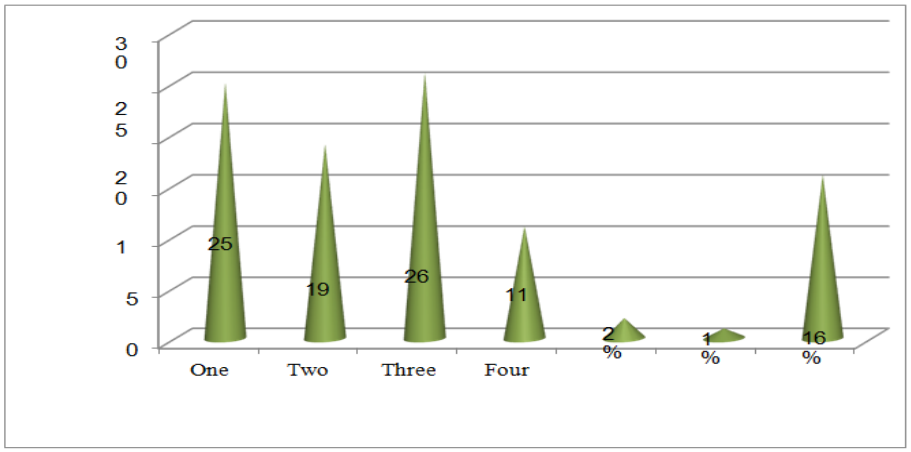

Figure 2: Percentage distribution based on number of comorbidity.

Percentage distribution based on past medical history

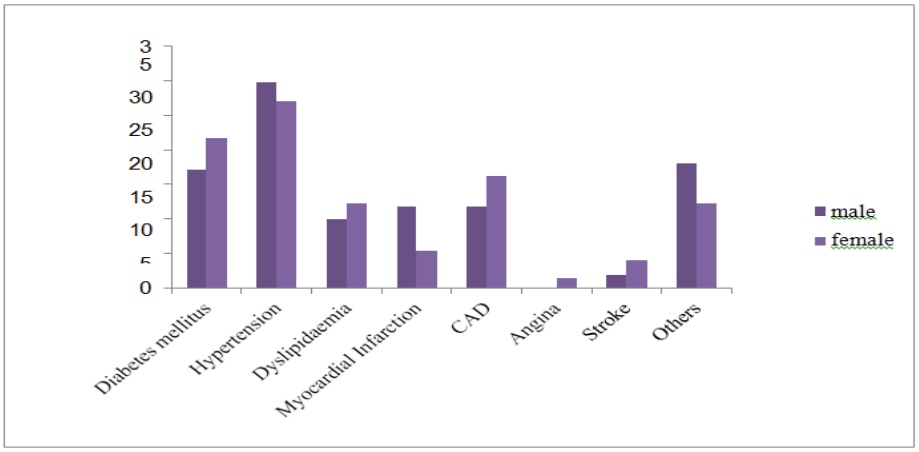

Figure: 3 Percentage distribution based on past medical history.

Percentage distribution based on known cardiac history

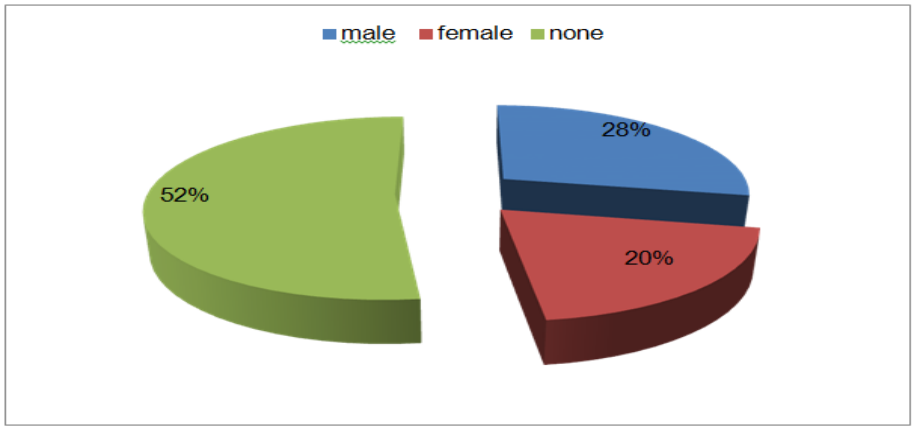

Figure 4: Percentage distribution based on known cardiac history.

Distribution based on diagnosis

Table: 1 Distribution based on diagnosis.

Disease	Male	Percentage %	Female	Percentage %
Diabetes mellitus	9	7.14	12	12.63
Hypertension	10	7.93	14	14.73
Dyslipidemia	5	3.96	2	2.10
Myocardial infarction	24	19.04	12	12.63
CAD	43	34.12	16	16.84
Stroke	6	4.76	5	5.26
Angina	2	1.58	2	2.10
Respirator Tract disease	15	11.90	10	10.52
Parkinson's disease	0	0	2	2.10
Renal disease	2	1.58	1	1.05
Others	10	7.93	19	20

Distribution based on prescribed drugs (n=300)

Table 2: Distribution based on prescribed drugs (n=300).

Cardiovascular drugs	Frequency	Percentage (%)
Antiplatelet	55	18.33
Beta blockers	50	16.66
ACE inhibitors	44	14.66
Antihyperlipidemics	40	13.33
Calcium channel blockers	20	6.66
Angiotensin receptor antagonist	13	4.33
Anticoagulant	8	2.66
Antidiabetics	25	8.33
Antianginal	5	1.66
Others	40	13.33

CONCLUSION

Cardiovascular diseases are a group of disorders of heart and blood vessels. According to WHO, heart disease is one of the major health burdensthat lead to death worldwide. Risk factors include family history, age, sex, smoking, alcohol consumption, abnormal lipid level, high blood pressure, high blood glucose, physical inactivity, stress and obesity.

From our study we found out that the most commonly prescribed cardiovascular drugs were Antiplatelets (18.33%), beta-blockers (16.66%), ACE inhibitors (14.66%) and Anti hyperlipidaemia agents (13.33%). Apart from medications, there should be need of careful attention to diet and exercise. Patients were also provided with patient information leaflets to improve their life style.

The study is expected to increase the awareness of the patients regarding cardiovascular drugs and to educate them so as to prevent cardiovascular diseases as well as to improve the quality of life.

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