Evaluation of Prescription Pattern of The Drugs Used in Patients Diagnosed with Acute Coronary Syndrome A Pilot Study

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ABSTRACT

Background: Acute Coronary Syndrome (ACS) is one of the main causes of morbidity and mortality in developing countries, which explains the need for rational prescribing of drugs to the patients. The objective of the present study was to evaluate the different classes of existing drug treatment strategies used in the management of Acute Coronary Syndrome(ACS) **Aim:** To determine the current prescription pattern of the drugs used in patients diagnosed with the acute coronary syndrome, to improve the management of the patients with ACS and to identify the rationality of prescription pattern. **Materials and Methods:** A total of 16 patients were randomly selected for the pilot study who are diagnosed with ACS. The patient's prescription pattern was collected based on specially designed proforma from the inpatient and outpatient department of Cardiology. **Results:** In this study, a total of 16 patients with ACS were examined and the occurrence of ACS was more in males than females. Most of the patients were in the age group 50-60 years. The prescription pattern of various cardiovascular drugs includes anti-platelets 16 (100%), anti-hyperlipidemic 14(87%), anti-coagulants 14(87%), nitrates, anti-hypertensives. The most commonly prescribed class of drugs for Acute Coronary Syndrome were Anti-Platelets (100%) followed by anti-coagulants (87%) and antihyperlipidemic (87%). **Conclusion:** This study shows an inclusive perception of the pattern of drugs prescribed to the patients with Acute Coronary Syndrome and here most of the prescribed drugs are antiplatelets, statins, anticoagulants, and beta-blockers which shows the rational prescribing behavior of the physicians.

INTRODUCTION:

Coronary artery disease (CAD) remains the leading reason behind death worldwide [1]. Clinical manifestations embrace stable angina, acute coronary syndromes (ACS), cardiopathy, and unexpected death. The term ACS encompasses ST-elevation infarction (STEMI) and non-ST elevation ACS (NSTE-ACS), that includes non-ST elevation infarction (NSTEMI) and unstable angina (UA) [1]. The typical care for patients with ACS comprises initial coronary angiography with a view to revascularization with percutaneous coronary intervention (PCI) or coronary artery bypass surgery (CABG) [1,2]. Patients with STEMI typically present severely with severe unending cardiac chest pain and ST elevation on a 12-lead electrocardiogram (ECG). The term ACS includes a clinical range of pathophysiology and demonstrations of symptomatic coronary disease. This is generally due to atherosclerotic plaque rupture, ulceration, or loss that results in intraluminal thrombus development and compromises myocardial blood flow leading to myocardial necrosis and release of cardiac enzymes [2].

The acute coronary symptom is often caused due to atherosclerotic coronary artery (plaque formation and rupture), ischemic cascade, myocardial infarction, coronary artery embolism, and coronary spasm [1]. The signs and symptoms of ACS usually begin abruptly. They include chest pain, pain radiating from chest to shoulders, arms, back neck, upper abdomen, it also includes nausea and vomiting, dyspnea (shortness of breath), diaphoresis (sudden/rapid sweating), dizziness, indigestion, tiredness, pressure/tightness/burning sensation in chest and palpitation. The risk factors for ACS are the same as those for other types of heart disease [1,3]. Thus, the risk factors include; aging, high blood pressure (hypertension), high blood cholesterol(dyslipidemia), smoking, lack of physical activity, diabetes mellitus, obesity, family history, alcoholism, h/o preeclampsia during pregnancy, chronic kidney disease, inflammatory markers, diet and sedentary lifestyle [1]. ACS is a medical emergency that requires prompt diagnosis and care. The diagnosis includes an electrocardiogram (ECG), echocardiogram, chest x-ray, myocardial perfusion imaging, computerized tomography (CT) angiogram, stress test, blood tests, and serum cardiac markers analyses [1,2].

The primary pathophysiology in ACS is reduced blood flow to a portion of heart musculature which is generally secondary to plaque rupture and development of thrombus. Occasionally ACS can be secondary to vasospasm with or without primary atherosclerosis. The outcome is

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reduced blood flow to a part of the heart musculature resulting primarily in ischemia and then infarction of that part of the heart [3].

In this prospective observational study patients satisfying the inclusion and exclusion criteria and who are willing to participate in the study are included after obtaining their informed consent. All the relevant information regarding the study will be collected from the patient information sheet, case management of patients with acute coronary syndrome and to identify the rationality of prescription pattern.

METHODS AND MATERIALS

Study design:

The present study is a prospective and hospital-based observational study.

Study setting:

The present study was conducted in a tertiary care hospital in Kerala (Trivandrum) in the Outpatient Department (OPD) of cardiology.

Study material:

The subjects for the study were collected from the inpatient (IP) and outpatient (OP) Department of Cardiology of Cosmopolitan Hospital, Pattom, Trivandrum. Subjects are collected based on inclusion and exclusion criteria. The study was conducted for 1 month i.e., March 2021. A total of 16 patients who are diagnosed with Acute Coronary Syndrome (ACS) with comorbid conditions (DM, HTN, DLP & others) were taken up for the pilot study.

Inclusion criteria:

In this study, the patients are included based on the criteria including, the patients diagnosed with Acute Coronary Syndrome (ACS), patients in the age group of 30-80 years, a patient diagnosed with systemic hypertension, Dyslipidaemia, Diabetes Mellitus, and others with ACS and Patients with a history of ACS.

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Exclusion criteria:

Patients are excluded based on the criteria including, patients with kidney diseases, patients less than age group 30years, pregnant women, patients with bleeding disorders, thrombocytopenia, and psychiatric patients.

Data collection:

After providing the information about the study, the patient informed consent form was collected from the inpatient and outpatient department of Cardiology. The data were collected based on suitably designed proforma. All relevant information regarding the study will be collected from case records and direct interviews with the patients.

Statistical analysis:

Statistical analysis was conducted by using SPSS software.

RESULTS AND DISCUSSION

RESULTS:

In this pilot study randomly selected 16 patients diagnosed with ACS were taken based on the inclusion and exclusion criteria, drugs prescribed for the patients were collected based on the specially designed proforma.

The mean age group for the study was found to be 62.37. The patients between age group 51-60 years (31.3%) resulted with high risk followed by patients with age $\geq$ 61years (25%), from this result we can conclude that older patients with age $\geq$ 50 have experienced a high risk of ACS (table-1, figure-1).

Percentage distribution of patients based on age group is shown on the table below.

Table 1: percentage distribution of patients based on age group

Age	Frequency	Percent
41-50	3	18.8%
51-60	5	31.3%
61-70	4	25%
>70	4	25%
Total	16	100%

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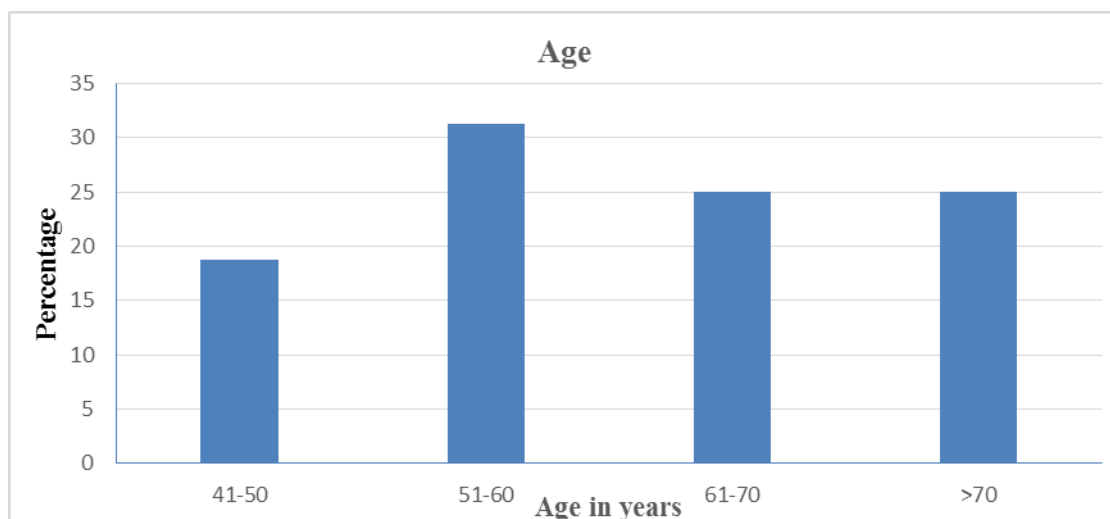
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Figure 1: Graphical representation of patients based on age group from table 1, it was observed that out of 16 patients with ACS, 18.8% of patients in the age group 41-50, 31.3% of patients in the age group 51-60, 25% of patients in the age group 61-70, 25% of patients in the age group $\geq 70.$ From the above table, we can conclude that the patient in the age group 51-60 had a greater chance for the occurrence of ACS when compared with other age groups.

In this study, 16 patients with ACS have randomly selected out of which the majority of them were male (81.35%) and females (18.8%) this states that males had a higher risk compared to females (table-2, figure-2).

Percentage distribution of patients based on gender is given in the following table.

Table 2: Percentage distribution of patients based on gender

Gender	Frequency	Percentage
Male	13	81.2%
Female	3	18.8%
Total	16	100%

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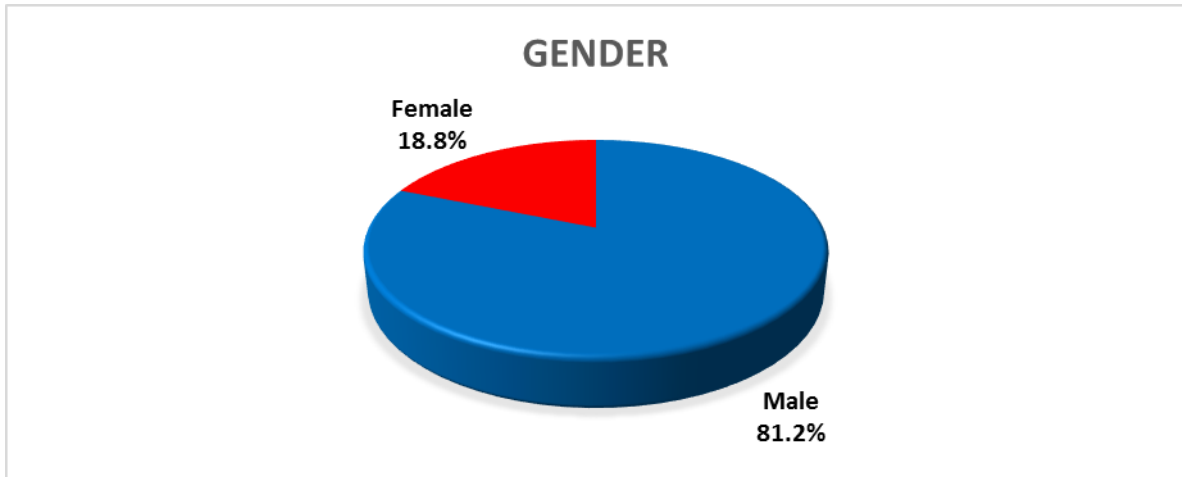
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Figure 2: Graphical representation of patients based on gender

From table 2, it was observed that out of total patients with ACS, 81.3% of them were males and 18.8% of them were females. From the above table, we can confirm that males have a greater chance of developing ACS than females.

The risk factors that mainly alter the normal mechanisms of the body include diabetes, hypertension, obesity, DLP and smoking may contribute to the progression of ACS. Patients with a history of diabetes mellitus DM (93.8%) were mostly affected with ACS followed by HTN, DLP (table 3, figure-3).

Percentage representation of patients based on past illness given on the following table.

Table 3: percentage distribution of patients based on past illness.

Past illness	Frequency	Percentage
HTN	13	81.2%
DLP	9	56.3%
DM	15	93.8%
Thyroid	1	6.3%
Others	3	18.8%

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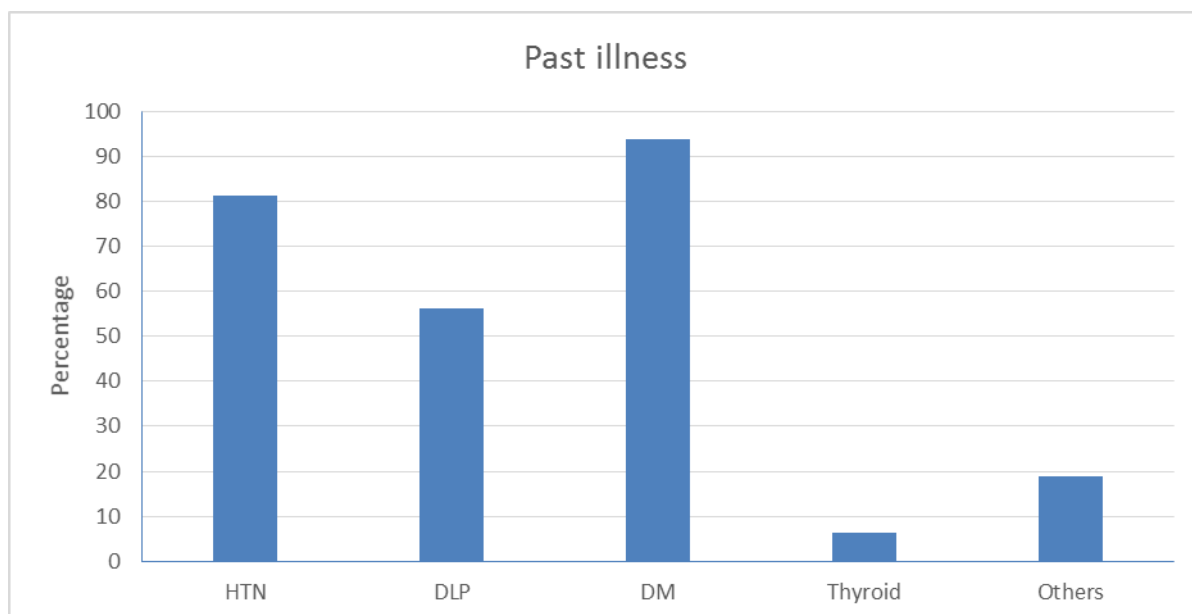
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Figure 3: Graphical representation of patients based on past illness.

From table 3: it was observed that out of total patients with ACS, 81.3% had Hypertension (HTN), 56.3% had dyslipidemia (DLP), 93.8% had Diabetes mellitus (DM), 6.3% had thyroid dysfunction, 18.8% had other diseases.

The percentage distribution of patients based on presenting symptoms is given in the following table.

Table 4: percentage distribution of patients based on presenting symptoms

Presenting symptoms	Frequency	Percentage
Chest pain	15	93.8%
Pain on arms	9	56.3%
Sweating	5	31.3%
Shortness of breath	6	37.5%
Palpitation	4	25%
Dizziness	3	18.8%
Weakness	7	43.8%

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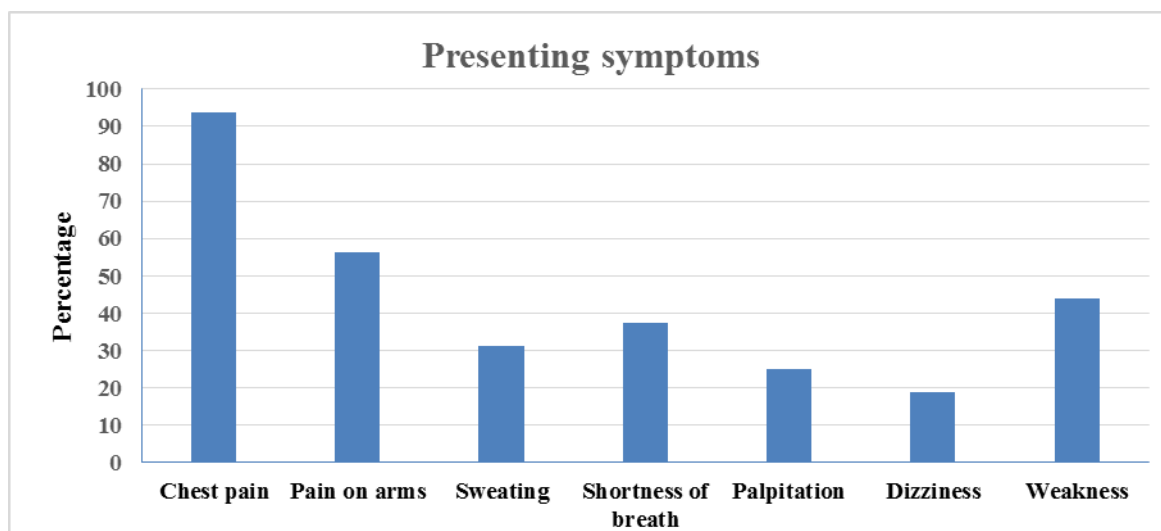
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Figure 4: Graphical representation of patients with presenting symptoms.

From table 4, it was observed that out of total patients with ACS, 93.8% of them had chest pain, 56.3% had pain on arms and shoulders, 31.3% had sweated, 37.5% had shortness of breathing, 25% had palpitation, 18.8% had dizziness, 43.8% had a weakness. From the above table, we concluded that patients with ACS had a greater chance of developing chest pain than other symptoms.

In this study, out of 16 patient's majority of the patients experienced myocardial infarction STEMI- 2patients (12.5%) and NSTEMI- 12 patients (75%) followed my angina-2patients (12.5%), out of which 9 patients underwent PCI, 2 patients undergoing CABG and 4 patients with medical therapy (table-5).

 The percentage distribution of patients based on diagnosis is given in the following table.

Table 5: Percentage distribution of patients based on the diagnosis.

Diagnosis	Frequency	Percentage
STEMI	2	12.5%
NSTEMI	12	75%
Angina	2	12.5%
Total	16	100%

From table 5, it was observed that out of total patients with ACS, 12.5% of them were diagnosed with ST-Segment Elevated Myocardial Infarction (STEMI), 75% of patients were

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diagnosed with Non-ST Segment Elevated Myocardial Infarction (NSTEMI), 12.5% of patients were diagnosed with Angina. From the above table, we concluded that patients with ACS have a greater chance of developing Non-ST Segment Elevated Myocardial Infarction (NSTEMI) than ST-Segment Elevated Myocardial Infarction (STEMI).

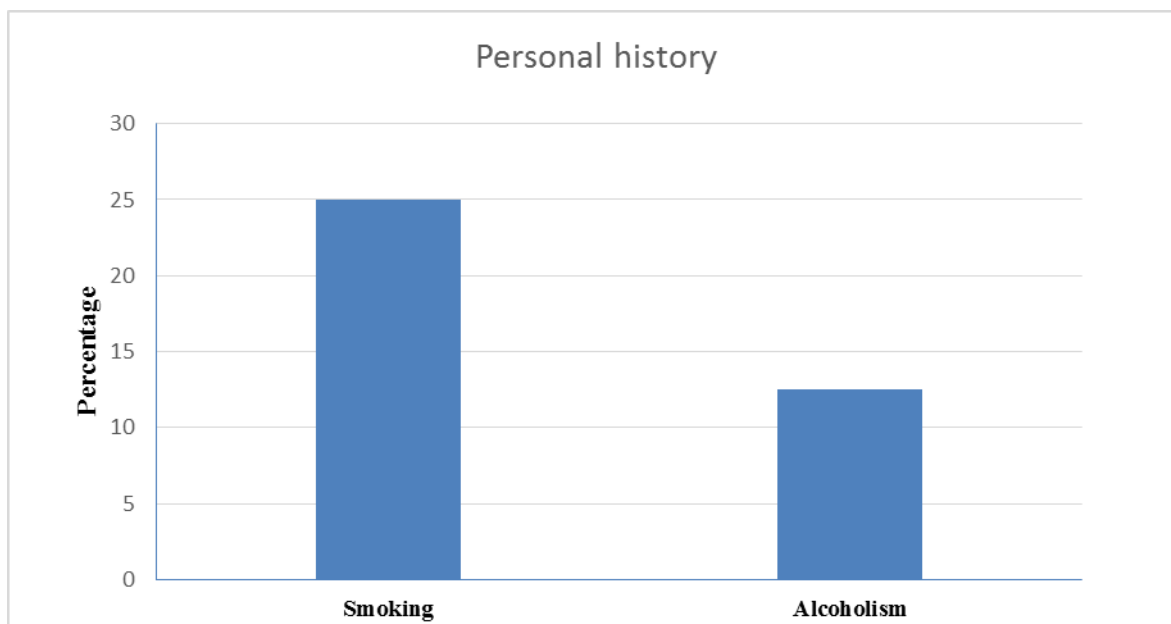Percentage distribution pf patients based on personal history is given below.

Figure 5: Graphical representation of patients based on personal history. From table 6, it was observed that out of total patients with ACS, 25% of them had smoking and 12.5% of them had alcoholism (males). From the above table, we concluded that patients with smoking had a greater chance of developing ACS.

Table 6: Percentage distribution of patients based on personal habits.

Personal habits	Frequency	Percentage
Smoking (males)	4	25%
Alcoholism(females)	2	12.5%
Nonsmoker and non-alcoholic	10	62.5%

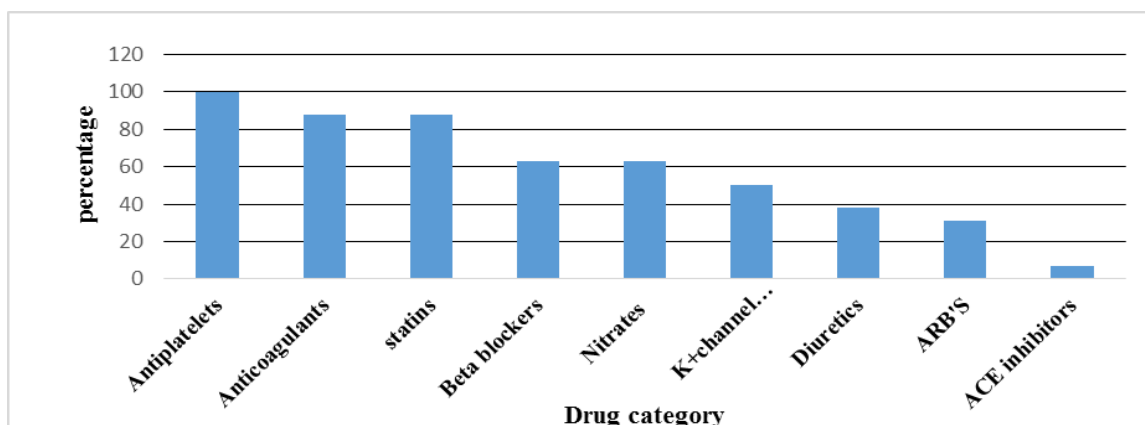*Citation: Sree Lekshmi R S et al. Ijppr.Human, 2021; Vol. 22 (3): 26-41.*

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Figure 6: percentage distribution of category of drugs

Table 7:

Sl no	Drugs	No: of patients & percentage distribution(n=16)
I	**Antiplatelets**	
	Ecospirin	10 (62.5%)
	Clopidogrel	4 (25%)
	Aspirin+Clopidogrel	2 (12.5%)
II	**Anticoagulants**	
	Ticagrelor	9 (56.3%)
	Inj Heparin	1 (6.3%)
	Clexane	3 (18.8%)
	Inj.Fondared	1 (6.3%)
III	**statins**	
	atorvastatin	14 (87.3%)
IV	**Nitrates**	
	Nitrolong	1 (6.3%)
	Angispan-TR	7 (43.8%)
	T.GTN Sorbitrate	1 (6.3%)
	Nitrosamine	1 (6.3%)
V	**Antianginal drugs**	
	Flavudon	4 (25%)
	Rancad	1 (6.3%)
VI	**K+ channel opener**	
	Nicorandil	8(50%)

In table 7: chi-square test result showed that a majority of the physicians prescribe Aspirin (62.5%) followed by clopidogrel (25%) and Aspirin-clopidogrel combination (12.5%) this

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shows that a majority of the physicians do not prescribe a combination of Aspirin and Clopidogrel. Atorvastatin was the most commonly prescribed drug 14 patients (87%) followed by Aspirin (10 patients, 62.5%), Ticagrelor (9 patients,56%), Nicorandil (8 patients, 50%), Angispan TR (7 patients 43.8%), clopidogrel (4 patients 25%). Anti-platelets 100%, Statins 87%, Anticoagulants 87%, k+ channel opener (50%, 8 patients), Nitrates (62.5%, 10 patients), Anti-Anginal (31% ,5 patients).

Table 8:

1	**Beta-blockers**	
	Metolar	6 (37.5%)
	Carvedilol	2 (12.5%)
	Concor	2 (12.5%)
2	**ACE inhibitors**	
	Cardace	1 (6.3%)
3	**ARB's**	
	Telmisartan	3 (18.8%)
	Repace	1 (6.3%)
	Novotel	1 (6.3%)
4	**Ca channel blockers**	
	Cilacar	1 (6.3%)
	Amlodac	2 (12.5%)
5	**Diuretics**	
	Inj.lasix	3 (18.8%)
	Aldactone	1 (6.3%)
	Planep	1 (6.3%)
	Dytor	1 (6.3%)

Table 8: includes the most commonly prescribed drugs for hypertension includes Beta-blockers followed by Diuretics, ARB's and ACE inhibitors. Metolar (36% 6 patients), Inj Lasix (19%, 3 patients), Telmisartan (19%, 3patients), Amlodac (13%, 2patients) followed by carvedilol, Concor, Cardace, Repace, Novotel, cilacar, Aldactone, Planep.

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Table 9:

1	**DPP-4 inhibitors**	
	Torglip-M	1(6.3%)
	Tenglyn	1(6.3%)
	Welten	1(6.3%)
2	**Insulin**	
	Inj.HIR	8(50%)
	Inj.Novomix	1 (6.3%)
3	**Biguanides**	
	Gluformin	1 (6.3%)
	Glyciphage	1 (6.3%)
	Glycomet	1 (6.3%)
4	**Sulfonylureas**	
	Raclide	1 (6.3%)
5	**SGLT-2 inhibitors**	
	Jardiance	1 (6.3%)
6	**DPP-4+Biguanides**	
	Janumet	2(12.5%)

In table 9 shows the most commonly prescribed drugs by the physicians for Diabetic patients include Inj.HIR (8 patients,50%) followed by Janumet (13%). Insulin was preferred in the majority of the patients with DM and was administered through the subcutaneous route.

The most commonly prescribed category of drugs includes Anti-Platelets, Anticoagulants, Statins, Nitrates, Anti-anginal, K+ channel opener, Beta-blockers, diuretics, ARB'S, ACE inhibitors, Insulin, represented in figure.

DISCUSSION:

S M Biradar et.al [4] assessed the prescription pattern of ACS and found that out of 120 ACS patients, the majority of them were males (81 patients, 68%), whereas females (39patients, 32%). In this pilot study which comprises 16 patients, most of them were males (13 patients, 81%), wherein of them were female patients (19%).

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Tittu George et.al [5] evaluated drug utilization in ischemic heart disease, out of 950 patients, the majority of them belong to the age group of 51-60 years, Interesting, it's similar to our study i.e., out of 16 patients, majority of them were at age group 51-60years (5 patients 32%). In this analysis, the mean age group of the patients was 62.37± 11.3 which is close to another study conducted by Chaudhari P et al [6] having the mean age 58±11.09.

In the present study, most of the patients with ACS experienced chest pain followed by pain on the shoulders which is similar to the other study conducted by Nadia et.al [7].

An observational study conducted by Naveen et.al [8] about drug utilization patterns in ACS suggests that 55.8% of ACS patients have undergone Percutaneous Coronary Intervention (PCI) which is similar to this study i.e., 56% of patients undergone PCI.

In this study, the habit of smoking in males was the most serious risk factor of ACS which is similartothestudyconductedbySinghet.al.

Taker et.al [9] analyzed the drug utilization pattern in post-Acute Coronary Syndrome. Out of 200 patients with ACS, 193 patients (97%) had antiplatelets ,187 patients (94%) received anti-hypertensive, 184 patients (92%) prescribed to have anti-coagulants, 180 patients (90%) with lipid lowering agents and 119 (60%) patients received nitrates. It is similar to this study i.e., among 16 patients, anti-platelets -16(100%), anti-hyperlipidemics -14(87%), anti-coagulants -14(87%), nitrates -10(63%), anti-hypertensives -14 (87%).

In the present study, the most commonly prescribed drugs were Aspirin and Clopidogrel as antiplatelets, atorvastatin among lipid-lowering agents, Angispan TR and GTN among nitrates, Metolar among beta-blockers, amlodipine among calcium channel blockers, ramipril among ACE inhibitor, ticagrelor among the anti-coagulants which was similar to the study conducted by Dr. S P Narwane et. al[10]Metolar given as beta-blockers, Amlodac given as calcium channel blockers, clopidogrel among antiplatelets, GTN among the anti-coagulants, atorvastatin for lipid-lowering agents, ramipril among ACE inhibitors, so a variation of prescribing obtained among antiplatelets and anti-coagulants.

In the present study, the most commonly prescribed drug for patients was dual antiplatelet therapy aspirin and clopidogrel (63% & 25%) which is almost similar to the study conducted by Kamath A et. al[11], Choudhary P et al[6], and Simeon Isezuo et. al[12].In thisstudy,majority of the patients received antiplatelets 100% (63% aspirin, 25% clopidogrel, 12% aspirin clopidogrel combination).

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A study conducted by Deepika et.al [13], on the cost analysis of oral anti-platelets, showed a huge price variation between the single and combination therapy i.e., the minimum cost for single therapy and the maximum cost for combination therapy. The single therapy aspirin shows minimum cost-effectiveness than aspirin clopidogrel that's why the majority of the physicians do not prescribe combination therapy.

Anoop et.al [14] assessed the incidence of type 2 diabetes mellitus in cardiovascular disease and concluded that diabetes mellitus is a high-risk factor for cardiovascular disease which is similar to this study that the majority of the patients had type 2 DM as a comorbid condition (94%).

Shamna et.al [15] conducted a study on the prescription pattern on CAD and showed that age, gender, smoking, and family history were the major risk factors, but in this study, the main risk factors include diabetes mellitus, hypertension, dyslipidemia, aging, smoking.

The percentage of prescriptions with antibiotic medications was found to be 12.5%. When compared to other studies such as 'Drug utilization trends in acute coronary syndrome' done by SaranyaKalyanasundarram Lakshmi et.al [16] (15.2%), the percentage of antibiotics prescribed was less. The most common group of antibiotics prescribed include cephalosporins (Ceftriaxone) and penicillin's which is observed to be similar to a study done by Nagabushan et al [17]. Irrational use of antibiotics may lead to antibiotic resistance and hence, antibiotics were prescribed less.

CONCLUSION:

In this study, we observed that there is more chance of Acute Coronary Syndrome (ACS) in males than females. The most common comorbid conditions associated with Acute Coronary Syndrome (ACS) were hypertension (HTN), diabetes mellitus (DM), dyslipidemia (DLP). Chest pain is the most common symptom in ACS patients. Patients in the age group 50-60 years are at high risk for developing ACS. Smoking is also a triggering factor for ACS. Most common drugs prescribed for the patients diagnosed with ACS and presenting symptoms include anti-platelet drugs 100% (clopidogrel, ticagrelor), anti-coagulants (87%), anti-hypertensives (), antidiabetic drugs (), antidyslipidemic agents (statins-87%). Most of the drugs are prescribed by their generic name in the prescription. By prescribing more generic medications, patients' financial burden can be reduced.

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ACKNOWLEDGMENT:

REFERENCES:

1**.** Kotecha T, Rakhit RD. Acute coronary syndromes. Clin Med (Lond). 2016;16(Suppl 6):s43-s48.

2.Smith JN, Negrelli JM, Manek MB, Hawes EM, Viera AJ. Diagnosis and management of acute coronary syndrome: an evidence-based update, J Am Board Fam Med, 2015, vol. 28 2(pg. 283-293).

3.Singh A, Museedi AS, Grossman SA. Acute Coronary Syndrome. [Updated 2020 Jul 17]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan.

4. S M Biradar, Mohammed Naveed, P KeerthiSai, H. PruthviRaju, A Harish Kumar, Anand P Ambali, VijayaSorangavi, B Shivakumar, N V Kalyane: Journal of Drug Delivery and Therapeutics 2018; 8(6- s):89-93; http:/ / jddtonline.info.

5.Zachariah TG, Subramanyam K., Pooja M., Vinayak J. Kempaller. Drug utilization study in ischaemic heart disease in a tertiary care hospital, Manglore, India.Int J Basic ClinPharmacol. 2017 Jul;(7):1799-1805.

6.Choudhary P, Jitendra M. Agrawal, Supriya D. Malhotra, Varsha J. Patel. Drug utilization pattern in acute coronary syndrome at tertiary care hospital: a prospective cross-sectional observational study. Int J Basic ClinPharmacol. 2016 Apr;5(2):513-516.

7. Khan NA, Daskalopoulou SS, Karp I, Eisenberg MJ, Pelletier R, Tsadok MA et al. Sex differences in acute coronary syndrome symptom presentation in young patients. JAMA Intern Med. 2013 Nov 11;173(20):1863-71.

8. Naveen A, Sravani MR, Venkat JN. Drug utilization patterns in acute coronary syndrome at a tertiary care teaching hospital: A retrospective, non-interventional and observational study. The Pharma Innovation. 2017;6(9, Part H):538.

9.Thaker V, Kamlesh Patel. A study of drug utilization pattern in post-acute coronary syndrome (ACS) patients at tertiary care teaching hospital: a prospective unicentric study. Int J Basic ClinPharmacol. 2017 Feb;6(2): 308-311.

10. Dr S P Narwane, Dr A P Marawar, Ms. Shah J, DrSayedAsif Umar.Prescription Pattern in Patients of Acute Coronary Syndrome in a Rural Tertiary Care Centre of Maharashtra. In: jmscr[Internet]. Vol 5 Issue 10 2017 Oct: 29452-29459.

11.Kamath A, Shanbhag T, Shenoy S. A descriptive study of the influence of age and gender on drug utilization in acute myocardial infarction.Journal of Clinical and Diagnostic Research. 2010 Feb 1;4(1):2041-2046.

12. Isezuo S. Characteristics, treatment and one-year outcomes of patients with acute coronary syndrome in a tertiary hospital in India. Indian Heart Journal.2014; 6:156-63.

13.Deepika PL, Priyambada S. Cost analysis of oral anti-platelet drugs – A pharmacoeconomic study. Natl J Physiol Pharm Pharmacol 2018;8(2):215-218.

14. Anoopdinesh shah: Type 2 diabetes and incidence of cardiovascular diseases: a cohort study in 1.9 million people; Lancet diabetes endocrinal 2015:3:105-13.

Citation: Sree Lekshmi R S et al. Ijppr.Human, 2021; Vol. 22 (3): 26-41.

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15.Shamna C, NeenuBabu, Sreelekshmi V S, Philip John Sebastian, NithinManohar R, Prasobh G Nair et al. Analysis of prescription pattern and impact of patient counselling in the quality of life of patients with coronary artery disease: A pilot study. In: jmscr[Internet]: Vol 7 Issue 4 2019 Apr: 917-924.

16. Saranya KL, Gowda HN, Sadananda KS. A study of drug utilization trends in acute coronary syndrome in intensive cardiac care unit at a tertiary care hospital, Mysore. Int J Basic ClinPharmacol2017; 6:344-8.

17.Nagabushan H, Roopadevi HS, Prakash GM, Pankaja R. A prospective study of drug utilization pattern in cardiac intensive care unit at a tertiary care teaching hospital.Int J Basic ClinPharmacol2015; 4:579-83.

HUMAN

Citation: Sree Lekshmi R S et al. Ijppr.Human, 2021; Vol. 22 (3): 26-41.

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