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A retrospective observatioanal study on adherence quadruple therapy for coronary artery disease in a tertiary care corporate hospital

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ABSTRACT

Objective

The main objective of our study is to Prevent heart and blood vessels disease retrospective adherence of quadruple therapy for coronary artery disease in a teritary care corporate hospital

Method

Quadruple therapy of coronary artery disease data of 150 cardiac patients, attending medicine. In and out patients of Sunshine Corporate hospital from June 2018 to February 2019 was collected from hospital.

Results

150 patients were enrolled in this study A total number of 150 patients were taken Aspirin were 60 (40%), Clopidogrel were 13 (8.7%), Ticagrelor were 7 (4.7%), Prasugrel were 13 (8.7%), Heparin were 15 (10%), Bivacardin were 3 (2%), LMWH were 5 (3.3%), Atropin were 12 (8%), Adrenaline were 2 (1.3%), Norepinephrine were 5 (3.3%), Sodium Bicarbonate were 5 (3.3%). The prescription pattern was found to be accordance with WHO guidelines.

Conclusion

In according with the WHO guidelines and medicine adherence is very low in people and we should make the patients aware of coronary artery disease by conducting patient education programs and by conducting some awareness programs.

Keywords: Quadruple therapy, Coronary artery disease.

INTRODUCTION

Coronary artery disease has been defined as an acute or chronic from of cardiac disability arising from imbalance between myocardial supply and demand for oxygenated blood. Coronary artery diseases in many ways such as angina pectoris of effort, Myocardial Infarction (MI), Cardiac arrhythmia, Cardiac failure or death there are several risk factors of developing coronary artery diseases. The include Hyper tension, Diabetic mellitus, Smoking, Family history of CAD, Obesity, Physical

inactivity and hormonal factors. The risk factor or also considered as risk stratification which is an important part in the prevention of disease, especially secondary prevention [1].

Coronary artery diseases is one of the secondary prevention among patients, including anti-platelet agents, statins, beta blockers, angiotensin converting enzyme converter, angiotensin receptor blockers and aldosterone receptor antagonist have all demonstrated significant morbidity and mortality benefits. Coronary artery diseases sub optimal adherence continue under efficacy, leading to worse outcomes and higher costs for patients and health care systems. Of an estimated 58 million deaths globally from all causes in 2005, cardiovascular disease (CVD) accounted for 30%. This proportion is equal to that due to infectious diseases, nutritional deficiencies, and maternal and perinatal conditions combined. It is important to recognize that a substantial proportion of these deaths (46%) were of people under 70 years of age, in the more productive period of life; in addition, 79% of the disease burden attributed to cardiovascular disease is in this age group [2].

In this study to reduce the cardiac events and to prevent the heart blockages of coronary artery disease. A study was conducted in a tertiary care hospital located in secunderabad this was aimed at adherence of quadruple therapy for coronary artery disease. we found that majority of patients with the age between 50-60 years [3].

A total of 150 prescriptions were analyzed for various parameters during this study. We took either gender into consideration and patients with the age between 50-60 years. Among 150 inpatients, 90 were males and 60 were females. The male patients percentage (60 %) and females (40 %) in cardiac departments [4].

A total of 150 as a sample patients were found to be associated with social habits. Majority of them had alcoholic smokers in females 2 ,males 20(14.6 %) , non alcoholic smoker in females 19 and males were 26 with percentage (30 %), non smoker alcoholic in females patients 12,males were 15 with (18 %) followed by non smoker non alcoholic in females27 and males were 29 with(37.4%) [5].

In a study of 150 patients number of patients taken Aspirin were 60(40%), Clopidogrel were 13(8.7%), Ticagrelor were 7 (4.7%), Prasugrel were 13 (8.7%), Heparin were 15 (10%), Bivacardin were

3(2%), LMWH were 5 (3.3%), Sodium Bicarbonate were 5 (3.3%) [6].

It is finally concluded that to assess the combinations of prescribed drugs. Decreasing the myocardial infarction to prevent heart and blood vessels. It is finally concluded that the physician and pharmacist should have an adherence of quadruple therapy on coronary artery disease.

Coronary artery disease is caused by the accumulation of cholesterol and lipids in the artery of the heart. The development of the condition occurs in the three stages namely fatty, streak, Fibrous plaque and complicated lesion. The diet which is high in lipids and cholesterol increases susceptibility of coronary artery disease [7].

METHODOLOGY

Patient data collection form

It contain patient demographic details like Age, Sex, weight, Date of admission, Date of admission, Date of discharge, Complaints on admission, Medical history, medication history, Social history, Family history, Previous allergies and it includes physical examination, Provisional diagnosis, Routine biochemical investigations, Final diagnosis, Drug treatment Chart, Progress chart and Discharge medications.

Study procedure

This is a retrospective study where patients are willing to participate in this research study. The Demographic details of the patients, Clinical diagnosis, Duration of hospitalization, Past medical history, Medication history, and Treatment.

This study in patients is eligible for enrollment into the study after obtaining the consent. The data collection form will be prepared and utilized. Study will be conducted in Sunshine hospital, Secunderabad a given approval for the conduct of the study. We have enrolled 150 patients of either gender in our study. All the data required for our study was collected through patients data collection forms. During this six months study period, initial two months were utilized for data collection. In the process of data collection, we have approached patients who satisfied our study inclusive criteria and we have explained the details of our study to them clearly and obtained consent after they understood the study well.

RESULTS

Table 1: Age wise distribution

| S.NO	AGE WISE	NO OF PATIENTS=150	PERCENTAGE	P VALUE
1	30-40	8	5.34	0.0389079080
2	41-50	32	21.33	
3	51-60	55	36.66	
4	61-70	44	29.33	
5	71-80	11	7.34	
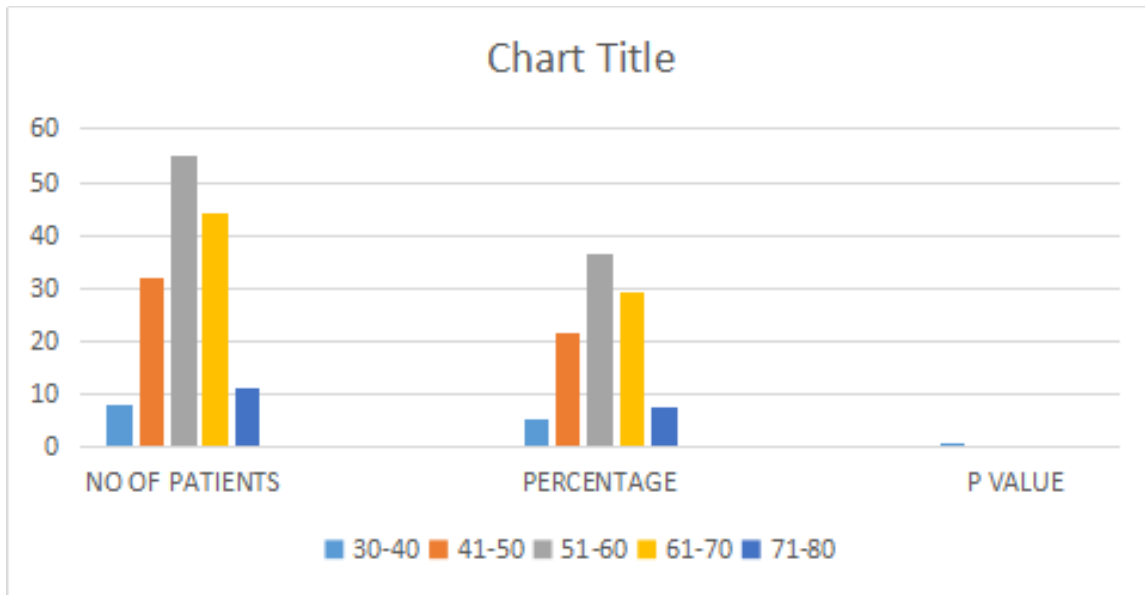
Graph 1: Age wise distribution

In a sample of 150 patients the majority of the patients were enrolled in age of 51-60 years were 55(36.66 %), 41-50 years were 32(21.33 %) followed by the age group 30-40 years were 8(5.34 %), 61-70 years were 44(29.33 %) and 71-80 years were 11(7.34 %). The p value was 0.0389079088 MEAN and Standard Deviation was found to be 57 ± 19.091883

Table 2: Gender wise distribution

| S.NO	GENDER WISE	NO OF PATIENTS=150	PERCENTAGE	P VALUE
1	MALES	90	60	0.0299859958
2	FEMALES	60	40	
	TOTAL	150	100	
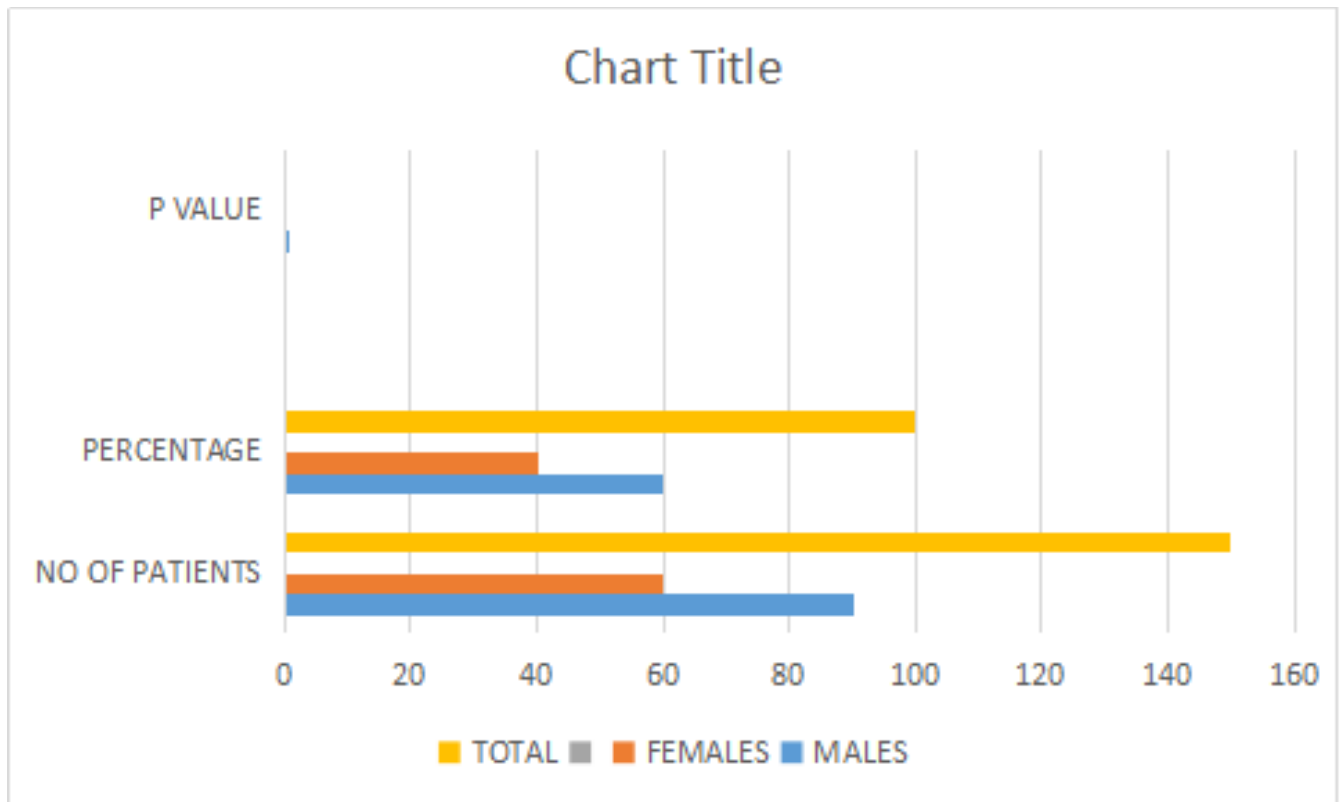
Graph 2: Gender wise distribution

A total of 150 prescriptions were analyzed for various parameters during this study. We took either gender into consideration and patients with the age between 50-60 years. Among 150 inpatients, 90 were males and 60 were females. The male patients percentage (60 %) and females (40 %) in cardiac departments. The P. Value was found 0.0299859958. the MEAN and Standard Deviation was found to be 84 ± 39.32.

Table 3: Complaints wise distribution

| S.NO	COMPLAINTS	NO OF PATIENTS=150	PERCENTAGE	P VALUE
1	CHEST DISCOMFORT	26	17	0.0239305775
2	CHEST PAIN	37	22	
3	EXERTION PALPITATION	13	8	
4	MILD CHEST PAIN	1	0.64	
5	PALPITATION	1	0.64	
6	SHOTNESS OF BREATHE	37	22	
7	SHORTNESS OF BREATHE GRADE 3	13	8	
8	SOB SWEATING	10	6	
9	SOB CHEST PAIN	1	0.64	
10	SWEATING	11	7.1	
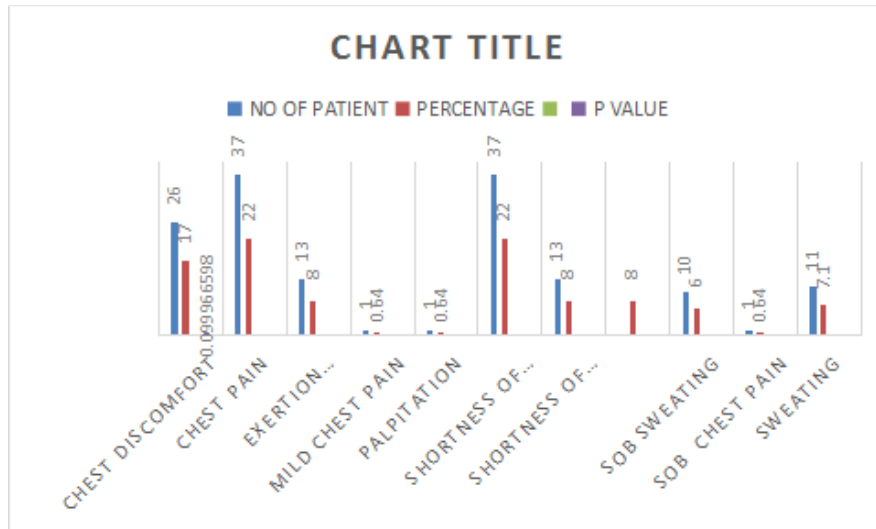
Graph 3: Complaints wise distribution

A total no. of 150 patients were collected with complains of chest pain, palpitation, sweating, chest discomfort, exertion palpitation, mild chest pain, shortness of breath, shortness of breath with sweating and shortness of breath with grade 3.The majority patients complained of chest pain were 37(22%), shortness of breath 37(22%), followed by chest discomfort were 26 (17%) followed by exertion palpitation 13(8 %),followed by sweating 11(7.1%) followed by shortness of breath sweating 10(6%). Followed Shortness of breath grade III 13 (8%) The least followed by mild chest pain 1(0.64%), palpitation 1(0.64%) and shortness of breath +chest pain were 1(0.64%). The P .value was found to be 0 .0239305775.

Table 4: Social history wise distribution

| S.NO	SOCIAL HISTORY	FEMALES	MALES	PERCENTAGE	P VALUE
1	ALCOHOLIC SMOKER	2	20	14.6	0.0308143756
2	NON ALCOHLIC SMOKER	19	26	30	
3	NON SMOKER ALCOHOLIC	12	15	18	
4	NON SMOKER NON ALCOHOLIC	27	29	37.4	
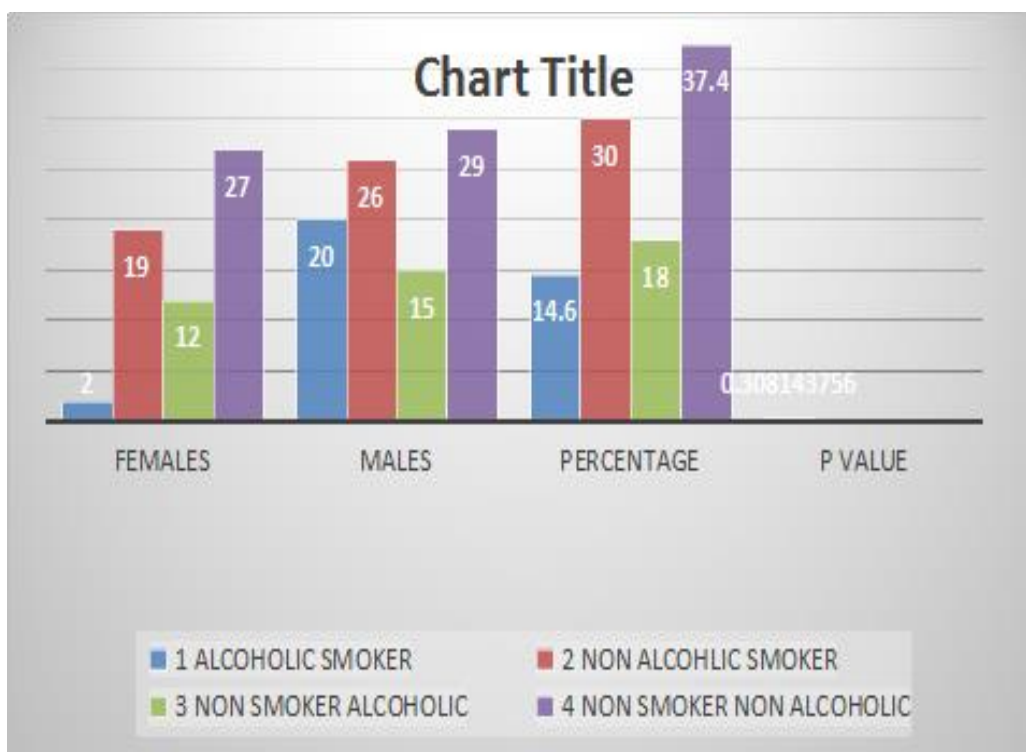
Graph 4: Social history wise distribution

A total of 150 as a sample patients were found to be associated with social habits. Majority of them had alcoholic smokers in females 2, males 20 (14.6%), non alcoholic smoker in females 19 and males were 26 with percentage (30%), non smoker alcoholic in females patients 12, males were 15 with (18%) followed by non smoker non alcoholic in females27 and males were 29 with (37.4%) and p value was found to be 0.03081437561.

Table 5: BMI wise distribution

| S.NO	BMI WISE DISTRIBUTION	NO OFPATIENTS=150	PERCENTAGE	P VALUE
1	NORMAL	71	47.3	0.0572695589
2	OVER WEIGHT	64	42.7	
3	UNDER WEIGHT	4	2.6	
4	FALSE	11	7.4	
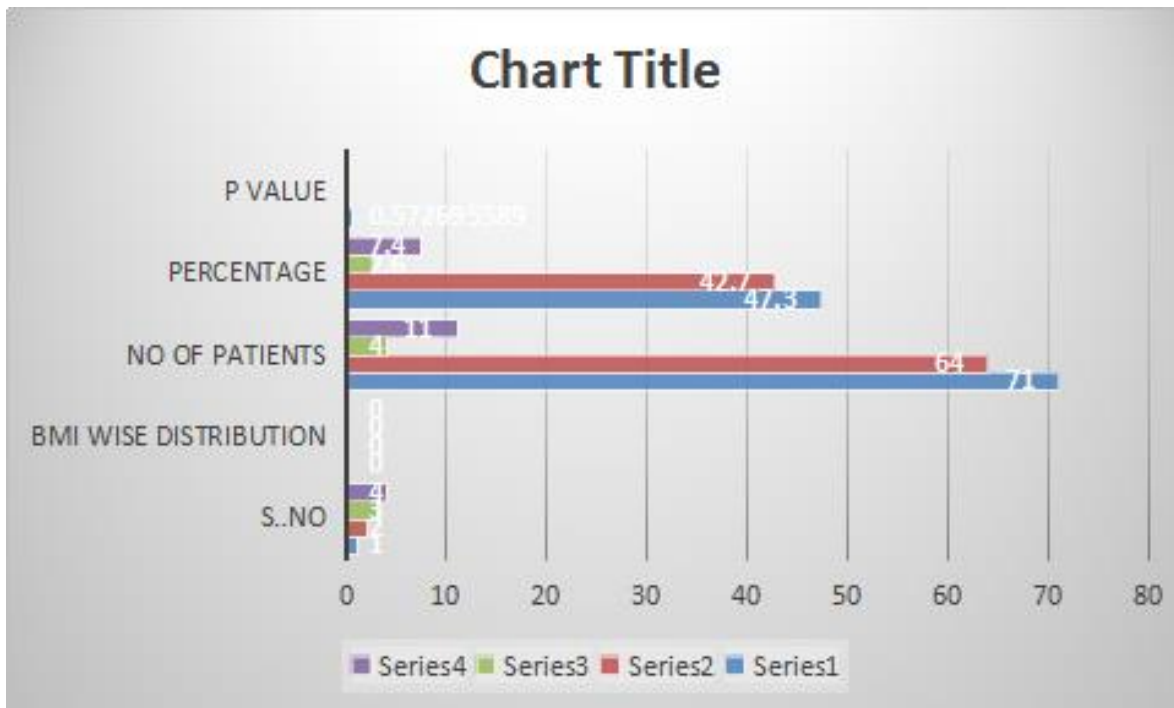
Graph 5: BMI wise distribution

A total no of 150 Patients were find. BMI was observed normal 71 Patients, (47.3%) Overweight 64 Patients (42.7%), Underweight 4 Patients, (2.6%) and False were 11 patients (7.4%). The P value founds was 0.0572695589.

Table 6: BP wise distribution

| S.NO	BP WISE DISTRIBUTION	NO OF PATIENTS=150	PERCENTAGE	P VALUE
1	110/70	12	8	0.026990284
2	120/80	14	9.3	
3	140/80	25	16.7	
4	158/70	13	8.6	
5	165/70	28	18.6	
6	165/80	15	10	
7	168/90	14	9.4	
8	170/80	15	10	
9	180/70	14	9.4	
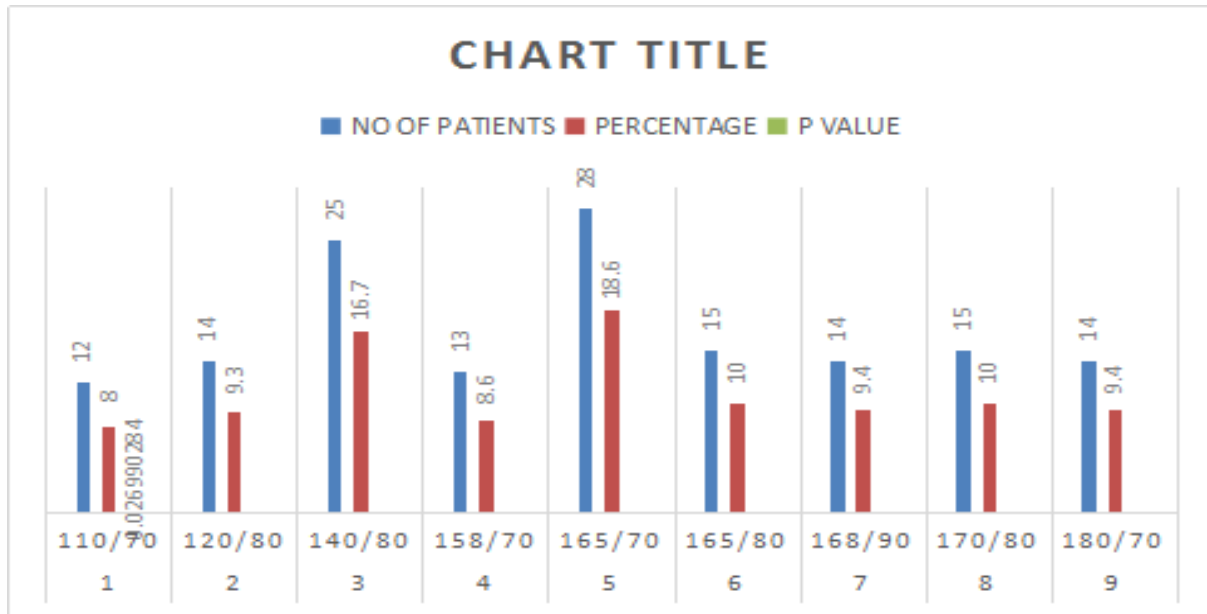
Graph 6: BP wise distribution

In a 150 patients study majority of patients with abnormal BP were 28 with (18.6%) 165/70, with 140/80 BP were 25 with (16.7%), 110/70 were 12 with (8 %), 158/70 were 13 with (8.6%), 120/80 were 14 with (9.3%), 165/80 were 15 with (10%), 168/90 were 14 with (9.4%), 170 /80 were 15 with (10%) and 180/70 were 14 with (9.4%). The P value was found to be 0.026990284

Table 7: Heart rate wise distribution

| S.NO	HEART RATE WISE	NO OF PATIENTS=150=	PERCENTAGE	P VALUE
1	67	8	5.4	0.0109875651
2	70	11	7.3	
3	71	11	7.3	
4	76	11	7.3	
5	78	11	7.3	
6	80	11	7.3	
7	82	11	7.3	
8	85	1	0.8	
9	86	11	7.3	
10	91	10	6.8	
11	92	11	7.3	
12	94	11	7.3	
13	95	21	14	
14	96	11	7.3	
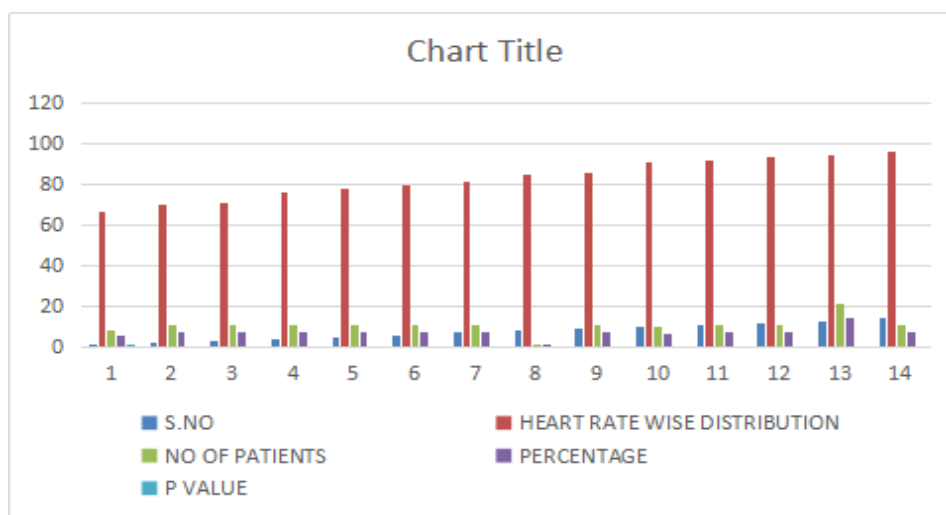
Graph 7: Heart rate wise distribution

In a sample of 150 patients the HEART RATE of the patients were find as the range of bradycardia 78 b/min 11 (7.3%) 76 b/min 11 (7.3%)71 b/min 11 were (7.3%) 78 b/min70 b/min 11(7.3%) 86 b/min 92 b/min 11 (7.3%) 94 b/min 96 b/min in 11 patients (7.3%), 67 b/min in 8 patients (5.4%), 85 b/min in 1 patients (0.8%) 91b/min in 10 patients (6.8%) and 95 b/min in 21 patients (14). The P VALUE was found to be 0.0109875651.

Table 8: Respiratory rate wise distribution

| S.NO	RESPIRATORY RATE WISE DISTRIBUTION	NO OF PATIENTS=150	PERCENTAGE	P VALUE
1	15-25	29	19.3	0.0430303629
2	26-36	81	54	
3	37-49	40	26.7	
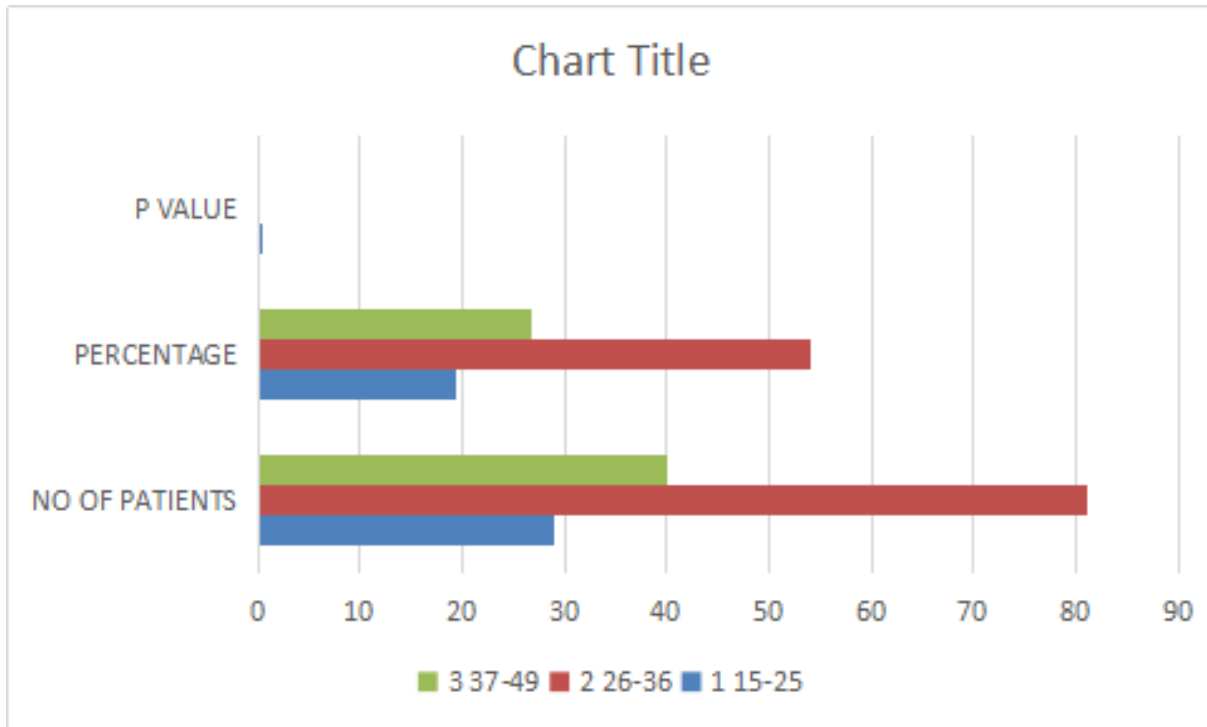
Graph 8: Respiratory rate wise distribution

In a sample of 150 patients the RESPIRATORY RATE of the patients were find as the range of Normal 15-25 b/min in 29 patients (19.3%) 29, 38 b/min in 81 patients in (54%), Tachipenia 37-49 patients were found to be 40 (26.7 %). The P VALUE was found to be 0.0430303629.

Table 9: Surgery wise distribution

| S.NO	SURGERY WISE	NO OF PATIENTS=150	PERCENTAGE	P VALUE
1	CABG	60	40	0.0114710209
2	ACS	40	26.7	
3	CAD	50	33.3	
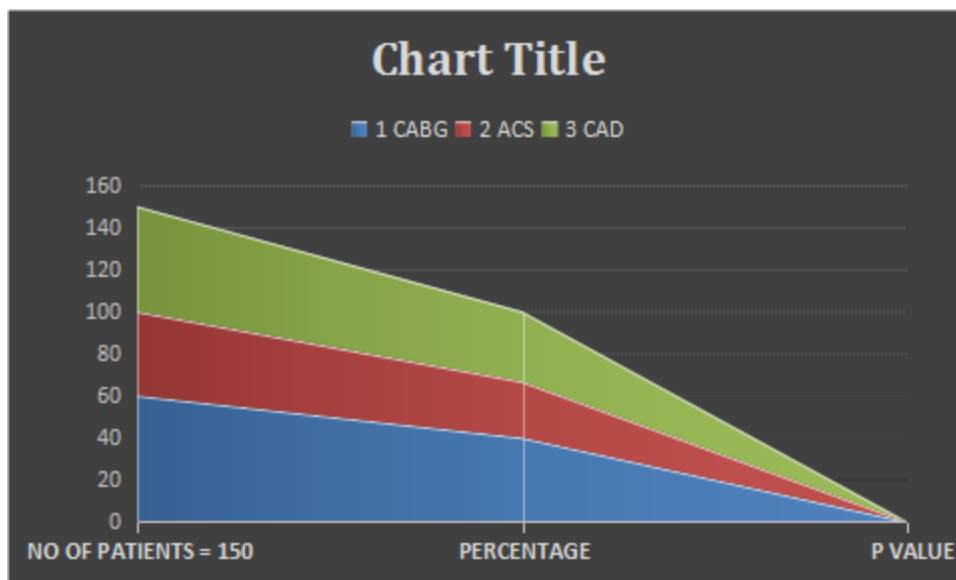
Graph 9: Surgery wise distribution

In a study of 150 patients the no of patients undergone surgeries were (CABG were 60 with (40%), (CAD were 50 with (33.3%), (ACS were 40 with (26.7%) and P VALUE for yes was found to be 0.0114710209.

Table 10: Therapy wise distribution

| S.NO	THERAPY WISE	NO OF PATIENTS =150	PERCENTAGE	PVALUE
1	QUADRAPULE	91	60.7	0.0323577822
2	NON QUADRAPULE	59	39.3	
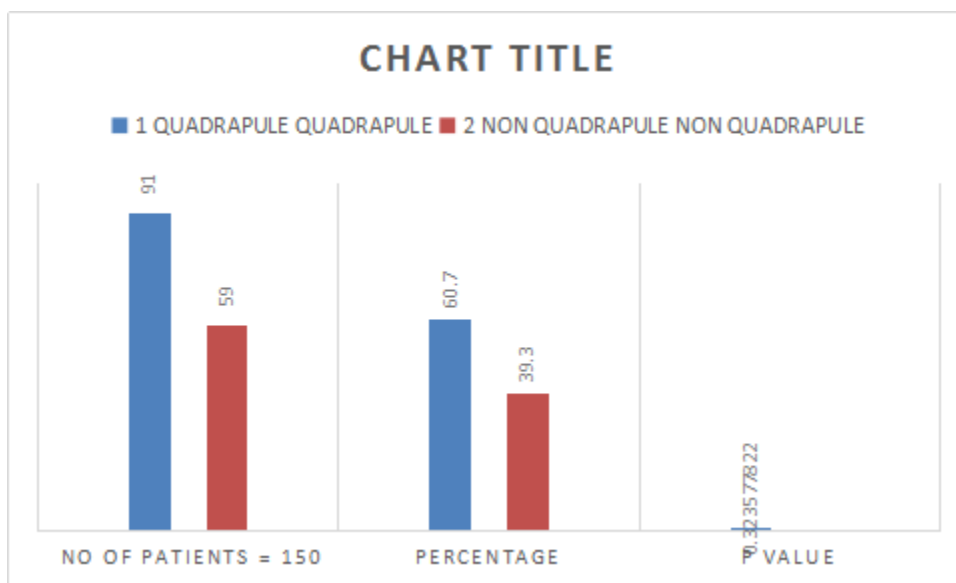
Graph 10: Therapy wise distribution

In a study of 150 patients number of patients taking quadruple therapy were 91 and quadruple and therapy with (60.7%) and non-quadruple were 59 with (39.3%). P value found was 0.0391045461.

Table 11: Drug wise distribution

| S.NO	DRUG WISE	NO OF PATIENTS=150	PERCENTAGE	P VALUE
1	ASPIRIN	60	40	0.0448979852
2	CLOPIDOGREL	13	8.7	
3	TICAGRELOR	7	4.7	
4	PRASUGREL	13	8.7	
5	HEPARIN	15	10	
6	BIVACARDIN	3	2	
7	LMWH	5	3.3	
8	STATIN	10	6.7	
9	ATROPIN	12	8	
10	ADRENALINE	2	1.3	
11	NOREPINEPHRIN	5	3.3	
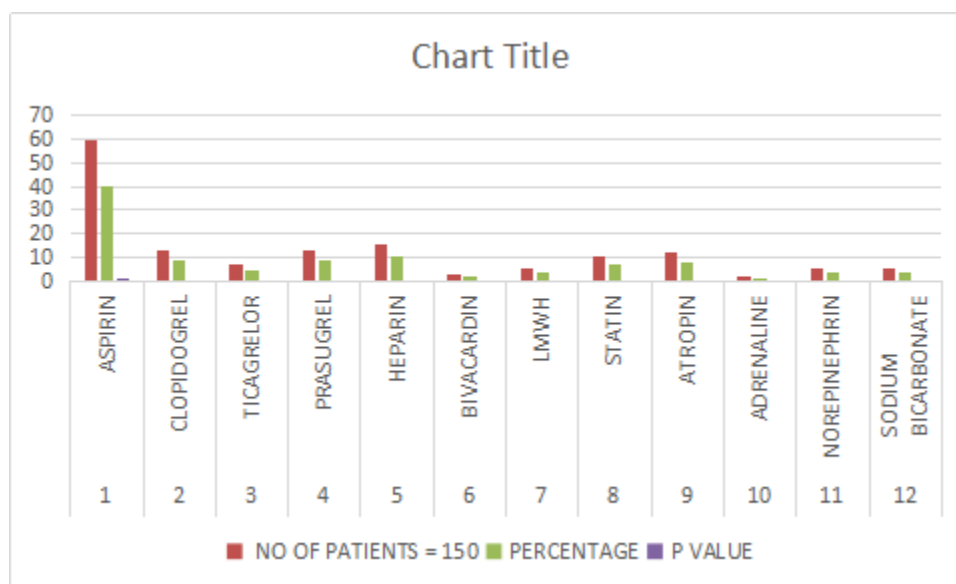
Graph 11: Drug wise distribution

In a study of 150 patients number of patients taken Aspirin were 60 (40%), Clopidogrel Were 13(8.7%), Ticagrelor Were 7 (4.7%), Prasugrel Were 13 (8.7%) Heparin Were 15 (10%) ,Bivacardin Were 3 (2 %), Lmwh Were 5 (3.3%) Atropin Were 12 (8 %), Adrenaline Were 2 (1.3%), Norepinephrine Were 5 (3.3%), Sodium Bicarbonate were 5(3.3 %) P VALUE found was 0.0448979852.

Table 12: Comorbidities wise distribution

S.NO	CO MORBIDITY	FEMALES	MALES	TOTAL	%	P VALUE
1	DM	10	20	30	20	0.0148428392
2	HTN	9	21	30	20	
3	CAD	10	10	20	13.3	
4	HYPOTHYROIDISM	14	16	30	20	
5	ANAEMIA	11	4	15	10	
6	CKD	2	4	6	4	
7	COPD	11	1	12	8	
8	CLD	7	0	7	47	
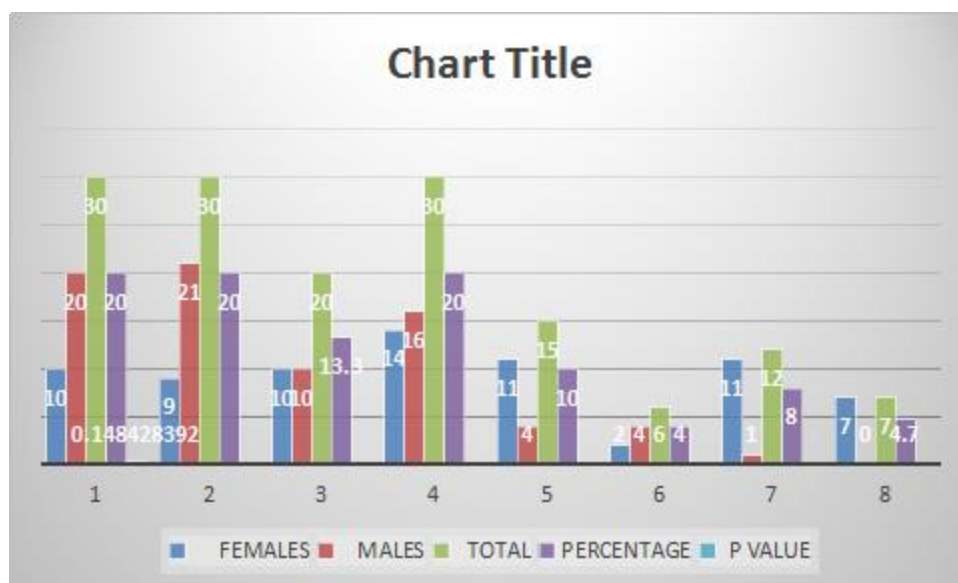
Graph 12: Comorbidities wise distribution

In a study of 150 patients comorbidity was observed as DM females were 10 males were 20 with (20%), HTN females were 9, males were 25 with (20 %), CAD females were 14, males were 10 with (13.3%) ANAEMIA females were 7, males were 4 with (10%) CKD females were 2, males were 4 with (4%) COPD females were 11, males were 2 with (8 %) CLD females were 7, males were 0 with (4.7%) P value was found to be 0.0148428392.

DISCUSSION

A study was conducted in a tertiary care corporate hospital located in secunderabad this was at aimed adherence of quadruple therapy for coronary artery disease. We found that majority of patients with the age between 51-60 year (36.66%) the p value 0.03890790808, and Show table no 1. Among 150 inpatients, 90 were males and 60 were females. The male patients percentage (60 %) and females (40 %) in cardiac departments. The P Value was found to be 0.0299589958. and MEAN and Standard Deviation WAS FOUND to be 84+_ 39.32. Show table no.2 We found to be A total no of 150 patients complaints of chest pain, palpitation, sweating, chest discomfort, chest pain, shortness of breath, exertion palpitation, shortness of breathing with sweating, SOB with grade 3.Among 150 patients we found the majority of complaints chest pain 37 (22%). The 150 patients we found the majority of complaints chest pain 37 (22%) And the p value was found to be 0.0239305755 show table no 3. A total of 150 as a

sample patients were found to be associated with social habits. Majority of them had alcoholic smokers in females 2 ,males 20(14.6%), non alcoholic smoker in females 19 and males were 26 with percentage (30%), non smoker alcoholic in females patients 12,males were 15 with (18 %) followed by non smoker non alcoholic in females27 and males were 29 with(37.4%) and p value was found to be 0.03081437561 show table no 4.

In a 150 patients study majority of patients with abnormal BP were 28 with (18.6%) 165/70, with 140/80 BP were 25 with (16.7%), 110/70 were 12 with (8%), 158/70 were 13 with (8.6%), 120/80 were 14 with (9.3%), 165/80 were 15 with (10%), 168/90 were 14 with (9.4%), 170 /80 were 15 with (10%) and 180/70 were 14 with (9.4%). The P value was found to be 0.026990284 show table no 6. In a sample of 150 patients the HEART RATE of the patients were find as the range of bradycardia 78 b/min 11 (7.3%) 76 b/min 11 (7.3%) 71 b/min 11 were (7.3%)78 b/min70 b/min 11(7.3%) 86 b/min 92 b/min 11 (7.3%)94 b/min 96 b/min in 11 patients (7.3%), 67 b/min in 8 patients (5.4 %), 85 b/min in 1 patients (0.8%) 91b/min in 10 patients (6.8%) and 95 b/min in 21 patients (14). The P VALUE was found to be 0.0109875651 show table no 7. In a study of 150 patients number of patients taking quadruple therapy were 91 and quadruple and therapy with (60.7 %) and non quadruple were 59 with (39.3%). P value found was 0.0391045461. show table no 10

In a study of 150 patients number of patients taken Aspirin were 60 (40%), Clopidogrel Were 13(8.7%), Ticagrelor Were 7 (4.7%), Prasugrel Were 13 (8.7%) Heparin Were 15 (10%), Bivacardin Were 3 (2%), Lmwh Were 5 (3.3%) Atropin Were 12 (8 %), Adrenaline Were 2 (1.3%), Norepinephrine Were 5 (3.3%) ,Sodium Bicarbonate were 5(3.3 %) P VALUE found was 0.0448979852 show table no 11. In a study of 150 patients comorbidity was observed as DM females were 10 males were 20 with (20 %), HTN females were 9, males were 25 with (20 %), CAD females were 14, males were 10 with (13.3 %) ANAEMIA females were 7, males were 4 with (10%) CKD females were 2, males were 4 with (4 %) COPD females were 11, males were 2 with (8%) CLD females were 7, males were 0 with (4.7%) P value was found to be 0.0148428392. show table no 12.

CONCLUSION

A study was conducted in a tertiary care corporate hospital located in secunderabad this was at aimed adherence of quadruple therapy for coronary artery disease. we found that majority of patients with the age between 51-60 years. Among 150 inpatients, 90 were males and 60 were females. The male patients percentage (60 %) and females (40 %) in cardiac departments. The P Value was found to be 0.0299589958. and MEAN and Standard Deviation WAS FOUND to be 84+_ 39.32. We found to be A total no of 150 patients complaints of chest pain, palpitation, sweating, chest discomfort, chest pain, shortness of breath, exertion palpitation, shortness of breathing with sweating, SOB with grade 3.Among 150 patients we found the majority of complaints chest pain 37 (22%). The 150 patients respiratory rate wise distribution was found to be 15-25 patients29 (19.3%), 26-36 patients 81 (54%), 37-49 patients 40(26.7%). The p value was found to be 0.043030362.

In a study of 150 patients number of patients taking quadruple therapy were 91 and quadruple and therapy with (60.7 %) and non-quadruple were 59 with (39.3%)**.** It is finally concluded that the physician and pharmacist should have an adherence of quadruple therapy on coronary artery disease. Coronary artery disease is caused by the accumulation of cholesterol and lipids in the artery of the heart. The development of the condition occurs in the three stages namely fatty, streak, Fibrous plaque and complicated lesion. The diet which is high in lipids and cholesterol increases susceptibility of coronary artery disease.

REFERENCES

[1]. Prevention of cardio vascular disease guidelines for assessment and management of cardiovascular as per WHO.
[2]. Dr. Dileep Singh Nirwan, Dr. Uttam Kumar. Comparative study of serum AST, CK-MB, in myocardial infarction with survival and myocardial infarction without survival. International Journal of Medical Science and Education. 5(1), 2018, 182-187
[3]. Rachel Dankner, Galit Geulayov, Arnona Ziv, Ilia Novikov, Uri Goldbourt, and Yaakov Drory. The effect of an educational intervention on coronary artery bypass graft surgery patients' participation rate in cardiac rehabilitation programs: a controlled health care trial. BioMed Central. 6(9), 2019, 59-65.
[4]. Dr. Abhyudaya Verma, Dr. Parth Pandya, Dr. Deepak Sharma. Skin Manifestations in Patients with Type-II Diabetes Mellitus. International Journal of Research and Review. 6(9), 2019.
[5]. K.E.BrownA.H.Campbell. Tobacco, alcohol and tuberculosis. British Journal of Diseases of the Chest. 55(3), 1961, 150-158
[6]. Matthew J Richler, Sara Yousaf, Stephen W Hwang, M.D., M.P.H, Norman F Dewhurst. Descriptive study of homeless patients' perceptions that affect medication adherence. olume 76(17), 2019, 1288–1295.
[7]. Tamilselvan T, Hesly Rajan, Sabith T Anand Kumar S. Kumutha T. A retrospective study of prescription pattern and cost analysis of selected drugs used in coronary artery disease and angioplasty patients. International Journal of Recent Trends in Science and Technology, 21(1), 2016, 09-12.