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PREVALENCE AND MANAGEMENT OF DYSLIPIDEMIA PATIENTS IN TERTIARY CARE HOSPITAL

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ABSTRACT

Aim: The aim of this study is to comprehensively analyze the demographic characteristics, health history, and lifestyle factors associated with dyslipidemia in a diverse patient population. The primary objective is to identify prevalent risk factors and patterns that contribute to dyslipidemia susceptibility. **Objective:** The primary objective of this study is to conduct a comprehensive analysis of demographic characteristics, health history, and lifestyle factors associated with dyslipidemia within a diverse patient population. **The specific aims include:** 1. Identify prevalent risk factors contributing to dyslipidemia susceptibility. 2. Examine patterns and correlations among demographic variables, health history, and lifestyle factors related to dyslipidemia. 3. Assess the prevalence of dyslipidemia in relation to age, weight, occupation, education level, and other demographic parameters. **Research Methodology:** This cross-sectional study employed a structured questionnaire to collect data from participants regarding age, weight, occupation, education level, medical history (DM/Thyroid/HTN, dyslipidemia), personal history of diseases (heart attack, peripheral artery disease, stroke, hypertension), lipid profile, history of liver disease, exposure rate to various CAD types, smoking status, alcohol consumption, blood pressure measurements, current lipid-lowering therapy, dietary habits, incidents of chest discomfort, physical exercise status, and history of adverse drug reactions (ADRS) or intolerance to cholesterol-lowering medication. The collected data were analyzed to provide insights into the prevalence of risk factors and potential correlations among the variables. **Conclusion:** The study reveals a complex interplay of demographic, health, and lifestyle factors contributing to CAD risk. The majority of participants fall within the 46-56 years age group, exhibit overweight or obesity, and are engaged in semi-skilled occupations. A high prevalence of chronic conditions such as diabetes, thyroid disorders, hypertension, and dyslipidemia is noted. Notably, lipid abnormalities, including decreased HDL and increased total cholesterol, triglycerides, and LDL, are prevalent. Lifestyle factors such as smoking, alcohol consumption, and dietary habits further contribute to CAD risk. The findings underscore the multifaceted nature of cardiovascular health, emphasizing the need for tailored interventions addressing specific risk factors identified in this diverse patient population.

KEYWORDS: Dyslipidemia, triglycerides and LDL.

INTRODUCTION

Dyslipidemia, a term encompassing various abnormalities in lipid metabolism, has emerged as a critical health concern worldwide. As a complex and multifaceted condition, dyslipidemia involves alterations in lipid levels, including cholesterol and triglycerides, which play pivotal roles in maintaining physiological balance. This dissertation delves into the intricate aspects of dyslipidemia, seeking to provide a comprehensive understanding through an exploration of its definition, classification, and the far-reaching global implications it holds, particularly in association with cardiovascular diseases.

The first section of this dissertation navigates through the intricacies of defining and classifying dyslipidemia. By examining the diverse lipid abnormalities and their clinical manifestations, we aim to establish a robust foundation for comprehending the heterogeneity inherent in this condition. This exploration is essential for clinicians, researchers, and policymakers alike, as a nuanced understanding of dyslipidemia is pivotal in shaping effective strategies for prevention, diagnosis, and management.

METHODOLOGY

Type of study: This is an observational cross-sectional study on All-comers' patients, who are on any lipid

lowering pharmacological therapy will be excluded Study Center: Mythri Multi-specialty Hospital, Mehdipatnam, Hyderabad.

Sample Size: 100 samples are used.
Study time: 6 months for the study.
Source of data: Case report form Prescriptions, Standard questionnaires, etc.

Statistical analysis: Data are shown as number, percentages or mean standard deviation. To analyze the data appropriate statistical software were used like Graph pad prism, SPSS software to identify the results that are statistically significant or insignificant.

RESEARCH METHODOLOGY

Participants in the study will complete a questionnaire and be interviewed in their own language. Questionnaire will be used for managing of dyslipidemia in patients.

Inclusion criteria: All patients who are suffering from dyslipidemia and are willing to involve and participate in the study.

Exclusion criteria: All patients who are not suffering from dyslipidemia and are not willing to involve and participate in the study. Data analysis using SPSS will be followed by a descriptive statistics summary utilising frequency tables, charts, and percentages.

Study procedure

1) Throughout the research period, as well as during follow-up visits to the hospital will be collected regularly.
2) The information gathered will be entered into data collecting forms intended for documenting just those variables/parameters essential to determining the study's goals.
3) The results will be retrieved when the necessary data, numbers, and percentages have been filtered out.

RESULTS

Percentage distribution of cases regarding Lipid Profile

Table 1: Lipid Profile.

Lipoproteins	Decreased Value	Normal Value	Increased Value
	Cases	Cases	Cases
Total cholesterol	5	4	12
Triglycerides	3	2	21
LDL	8	3	13
HDL	13	2	14
N	29	11	60

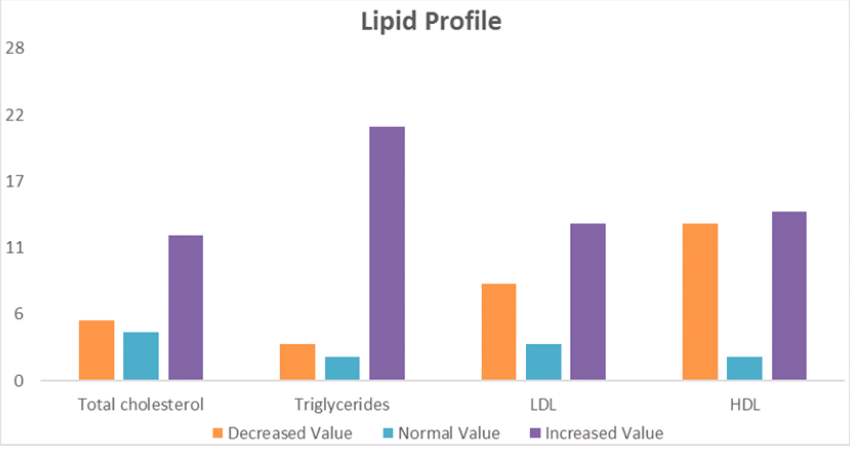

Figure: Lipid Profile.

History of Liver Disease

Table 9: History of Liver Disease.

History of Liver Disease	Yes	No
Cases	34	66

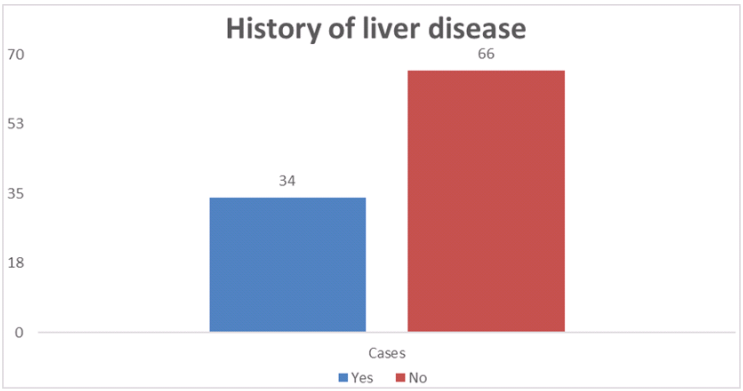

Figure: History of liver disease.

Frequency and percentage distribution of scores in Exposure rate among various types of coronary artery disease

Table: Exposure rate among various types of coronary artery disease.

Exposure rate	Myocardial Infarction	Angina Pectoris	Congestive Heart Failure	Ischemic heart disease
Less likely Prone	8	7	10	6
More likely Prone	14	11	16	11

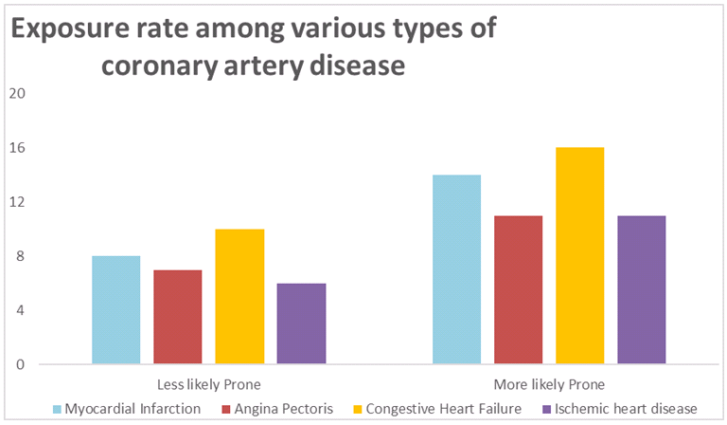

Figure: Exposure rate among various types of coronary artery disease.

Are you on Current lipid lowering therapy

Table: Lipid Lowering Therapy.

Lipid Lowering Therapy	Yes	No
Cases	63	37

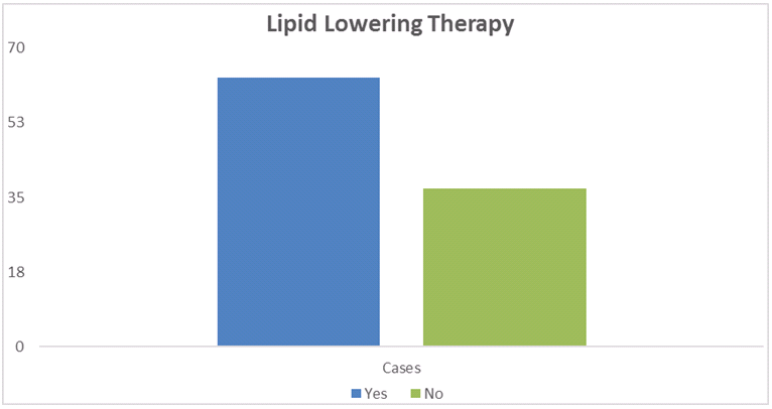

Figure: Lipid Lowering Therapy.

Any previous or current incidents of Chest Discomfort
Table: Chest Discomfort.

Chest Discomfort	Yes	No
Cases	63	37

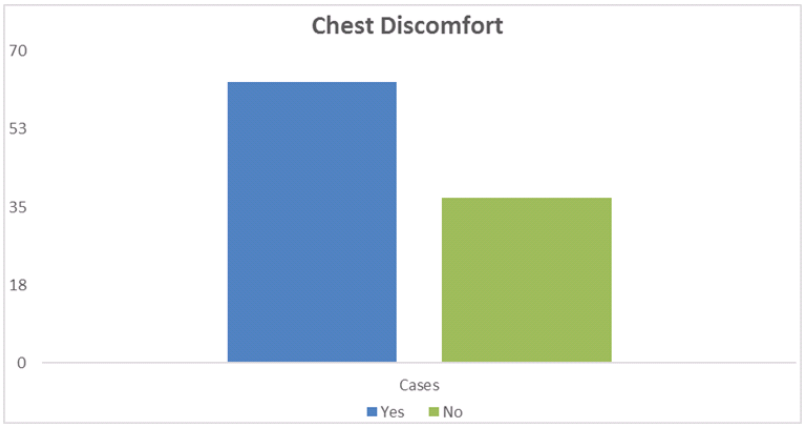

Figure: Chest Discomfort.

History of ADRS or intolerance to cholesterol-lowering medication
Table: ADRS or Intolerance.

ADRS or intolerance	Yes	No
Cases	7	93

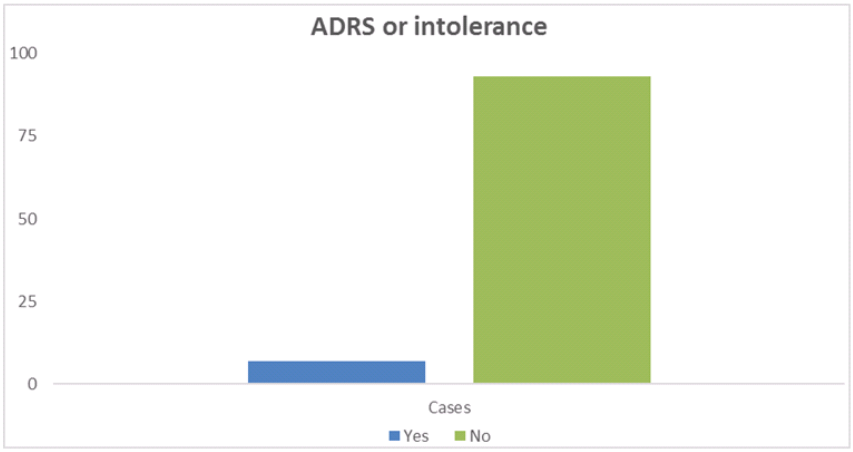

Figure: ADRS or Intolerance.

Table: BLOOD PRESSURE MEASUREMENTS.

Blood Pressure Category	Systolic Range (mmHg)	Diastolic Range (mmHg)	Number of Cases
Normal	90 - 120	60 - 80	30
Elevated	121 - 129	81 - 89	20
Hypertension Stage 1	130 - 139	90 - 99	25
Hypertension Stage 2	140 or more	100 or more	15
Hypertensive Crisis	Higher than 180	Higher than 120	5
Optimal	Less than 90	Less than 60	10

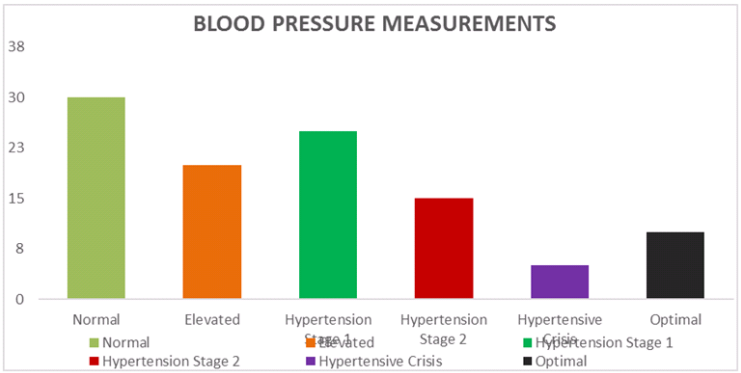

Figure: BLOOD PRESSURE MEASUREMENTS.

Table: TOTAL CHOLESTEROL.

Total Cholesterol Category	Cholesterol Range (mg/dL)	Number of Cases
Desirable	Less than 200	35
Borderline	200 - 239	34
High Risk	240 or more	31

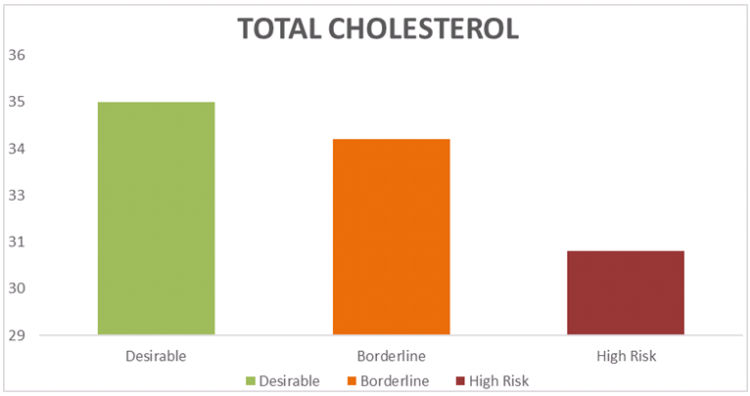

Figure: TOTAL CHOLESTEROL.

Table: TRIGLYCERIDES.

Triglycerides Category	Triglycerides Range (mg/dL)	Number of Cases
Desirable	Less than 150	27
Borderline	150 - 190	45
High Risk	200 - 499	28

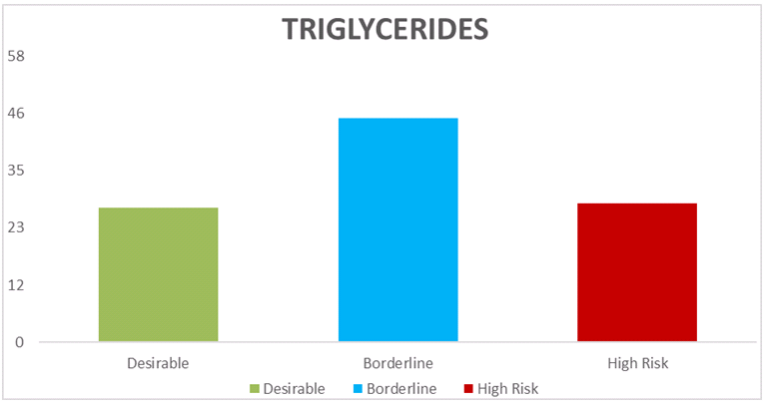

Figure: TRIGLYCERIDES.

Table: HDL – CHOLESTEROL.

HDL-Cholesterol Category	HDL-Cholesterol Range (mg/dL)	Number of Cases
Desirable	60 or more	37
Borderline	35 - 45	21
High Risk	Less than 35	42

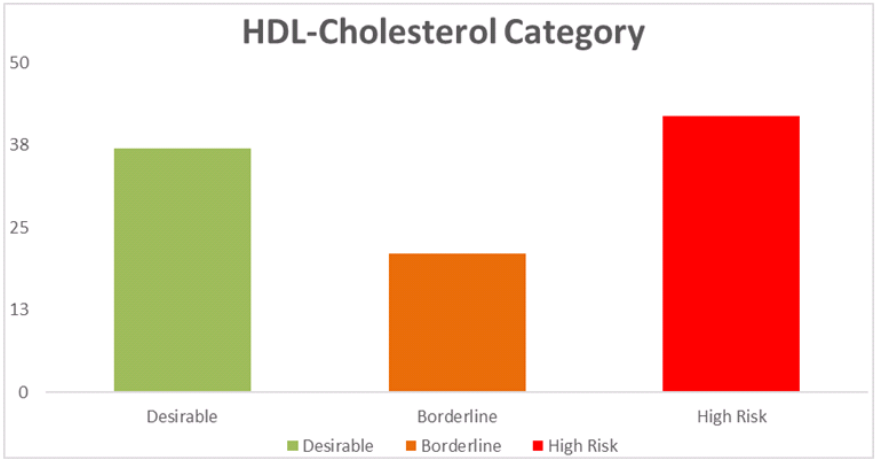

Figure: HDL – CHOLESTEROL.

Table: LDL – CHOLESTEROL.

LDL-Cholesterol Category	LDL-Cholesterol Range (mg/dL)	Number of Cases
Desirable	60 - 130	45
Borderline	130 - 159	32
High Risk	160 - 189	23

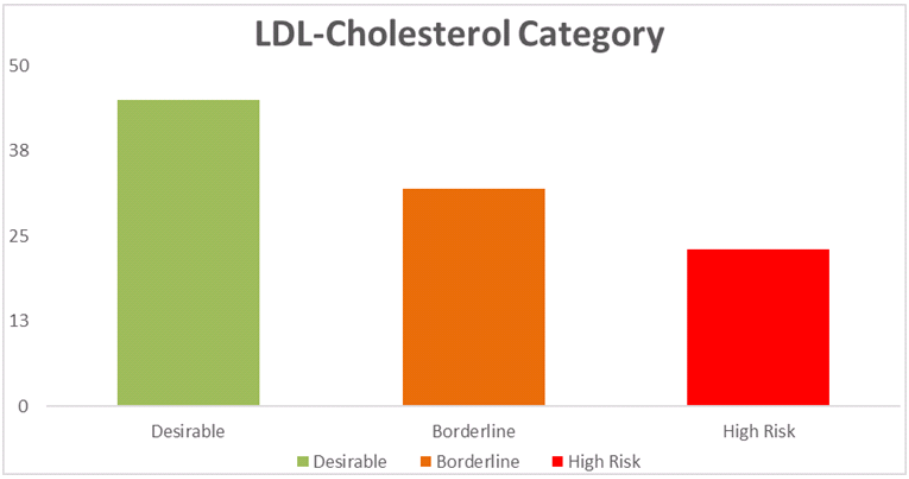

Figure: LDL – CHOLESTEROL.

Table: CHOLESTEROL - HDL RATIO.

Cholesterol-HDL Ratio Category	Ratio Value	Number of Cases
Desirable	Less than 4.0	26
Borderline	4.0 - 5.0	41
High Risk	Greater than 5.0	33

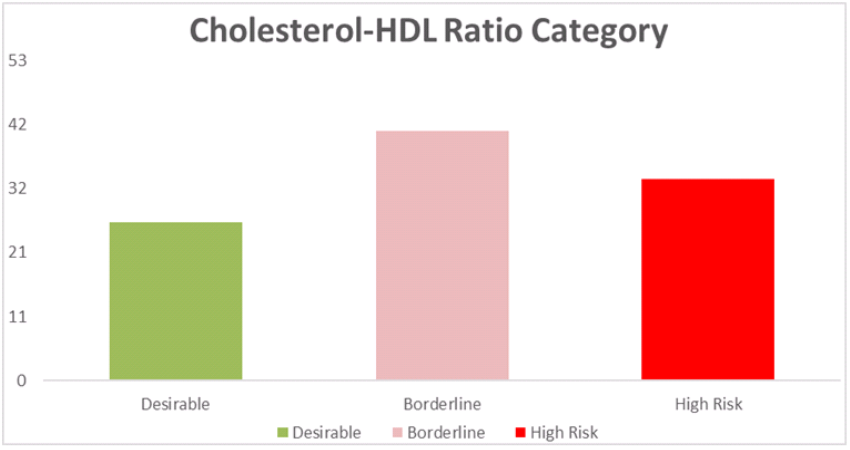

Figure: CHOLESTEROL - HDL RATIO.

Are you on Current lipid lowering therapy

Table: Lipid Lowering Therapy.

Lipid Lowering Therapy	Yes	No
Cases	63	37

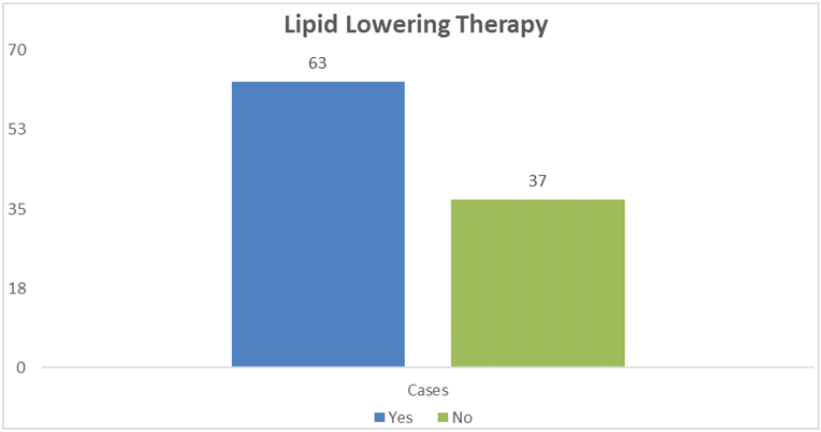

Figure: Lipid Lowering Therapy.

IF YES MENTION THE MEDICATION AND DOSE

Table: Lipid Lowering Therapy Medication.

Lipid-Lowering Therapy	Number of Cases	Medication and Dose (if Yes)
Yes	63	Rosuvastatin + Ezetimibe 10 mg + 10 mg daily Once daily Atorvastatin + Fenofibrate 20 mg + 145 mg daily Once daily Simvastatin + Fenofibrate 40 mg + 145 mg daily Once daily Ezetimibe + Pravastatin 10 mg + 40 mg daily Once daily Atorvastatin + Ezetimibe 40 mg + 10 mg daily
No	37	-

Table: Lipid Lowering Therapy Dose.

Medication(s)	Dosage(s)	Frequency
Atorvastatin	20 mg daily	Once daily
Simvastatin	40 mg daily	Once daily
Ezetimibe	10 mg daily	Once daily
Rosuvastatin + Ezetimibe	10 mg + 10 mg daily	Once daily
Atorvastatin + Fenofibrate	20 mg + 145 mg daily	Once daily
Simvastatin	20 mg daily	Once daily
Atorvastatin + Niacin	10 mg + 500 mg daily	Once daily
Rosuvastatin	10 mg daily	Once daily
Simvastatin + Ezetimibe	40 mg + 10 mg daily	Once daily
Pravastatin	40 mg daily	Once daily
Rosuvastatin + Fenofibrate	10 mg + 145 mg daily	Once daily
Ezetimibe + Niacin	10 mg + 500 mg daily	Once daily
Atorvastatin + Simvastatin	10 mg + 20 mg daily	Once daily
Rosuvastatin + Niacin	10 mg + 500 mg daily	Once daily
Simvastatin + Fenofibrate	40 mg + 145 mg daily	Once daily
Ezetimibe + Pravastatin	10 mg + 40 mg daily	Once daily

Rosuvastatin	20 mg daily	Once daily
Atorvastatin + Ezetimibe	40 mg + 10 mg daily	Once daily
Simvastatin	20 mg daily	Once daily
Rosuvastatin + Fenofibrate	10 mg + 145 mg daily	Once daily

ADR'S OR INTOLERENCE TO LIPID LOWERING MEDICATIONS

Table: ADR'S OR INTOLERENCE.

Medication Name	Type of Reaction	Severity	Management	Outcome
Atorvastatin	Muscle pain	Moderate	Discontinue medication	Improved after discontinuation
Simvastatin	Liver enzyme elevation	Mild	Monitor liver function	Resolved with continued monitoring
Rosuvastatin	Gastrointestinal upset	Mild	Adjust dosage	Improved with dosage adjustment
Ezetimibe	Rash	Severe	Discontinue medication	Resolved after discontinuation
Lovastatin	Headache	Mild	Symptomatic treatment	Resolved with symptomatic treatment
Pravastatin	Joint pain	Moderate	Switch to alternative	Improved with medication change
Fenofibrate	Pancreatitis	Severe	Discontinue medication	Hospitalization required
Bile acid sequestrants	Constipation	Mild	Dietary adjustments	Resolved with dietary changes
Alirocumab	Injection site reactions	Mild	Continue monitoring	Tolerable, no discontinuation required
Omega-3 fatty acids	Nausea	Moderate	Adjust dosage	Improved with dosage adjustment

DRUG AND DOSE FOR ADR'S OF THE CASES

Table: DRUG AND DOSE FOR ADR'S.

Patient ID	Medication Name	Dose	Type of Reaction	Severity	Management	Outcome
1	Atorvastatin	20 mg daily	Muscle pain	Moderate	Discontinue medication	Improved after discontinuation
2	Simvastatin	40 mg daily	Liver enzyme elevation	Mild	Monitor liver function	Resolved with continued monitoring
3	Rosuvastatin	10 mg daily	Gastrointestinal upset	Mild	Adjust dosage	Improved with dosage adjustment
4	Ezetimibe	10 mg daily	Rash	Severe	Discontinue medication	Resolved after discontinuation
5	Lovastatin	40 mg daily	Headache	Mild	Symptomatic treatment	Resolved with symptomatic treatment
6	Pravastatin	40 mg daily	Joint pain	Moderate	Switch to alternative	Improved with medication change
7	Fenofibrate	145 mg daily	Pancreatitis	Severe	Discontinue medication	Hospitalization required

CONCLUSION

The results of this study reveal a high prevalence of risk factors for coronary artery diseases, including demographic factors, health conditions, lipid abnormalities, and lifestyle choices. These findings underscore the complexity of cardiovascular health and emphasize the need for comprehensive strategies in preventing and managing coronary artery diseases, including lifestyle modifications, targeted medical interventions, and individualized treatment plans based on patient characteristics. Further research and tailored interventions are warranted to address the multifaceted nature of cardiovascular risk in this population.

A comprehensive investigation of the demographic features, health history, and lifestyle determinants of the varied patient population has yielded significant insights into the prevalence of dyslipidemia as well as the patterns that are linked with it. The purpose of the research was to investigate a variety of characteristics, including anything from age and weight to employment, level of education, and a number of other health markers.

According to the age distribution, a sizeable majority of the participants were in the age range of 46 to 56 years old, which indicates that this is an important time for evaluating the health of the cardiovascular system. When it came to weight, a sizeable number of the participants fell into the category of being above 100 kg, which highlights the possible influence that obesity may have on the susceptibility to dyslipidemia.

The fact that the majority of individuals were working in semi-skilled jobs provides evidence that there may be a connection between the kind of employment and dyslipidemia. Furthermore, a greater number of individuals who have an education level that is lower than the tenth grade may be an indication that certain educational groups need personalized health treatments.

On the other hand, the study of the lipid profile indicated several alarming tendencies, including a rise in total cholesterol, triglycerides, and LDL, along with a drop in HDL. A number of lifestyle variables, including smoking, drinking alcohol, and eating habits, contributed to the total risk of cardiovascular disease.

These findings highlight the significance of pharmaceutical therapies in the management of dyslipidemia, since a significant percentage of the patients were currently undergoing treatment to decrease their cholesterol levels. Because of the customized nature of treatment programs, there is a wide variety of prescription drugs and dosages.

In conclusion, the findings of this dissertation have shed light on the complex interaction between demographic, health, and lifestyle variables that influence the susceptibility to dyslipidemia in a wide range of patient populations. Personalized and focused therapies are required to address particular risk factors that were found in this thorough research, since the results highlight the diverse character of cardiovascular health and emphasize the necessity for such interventions. By providing a framework for future investigations and therapies focused at improving cardiovascular health outcomes, this study makes a contribution to a more comprehensive knowledge of dyslipidemia.

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