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### RESEARCH ARTICLE

#### DISEASES ASSOCIATED WITH LIPID DISORDERS IN WESTERN REGION IN KINGDOM OF SAUDI ARABI

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#### **Manuscript Info**

#### **Abstract**

##### **Manuscript History**

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#### **Introduction:-**

Lipid disorders encompass a broad spectrum of metabolic conditions that affect blood **lipid** levels. They are generally characterized by elevated levels of cholesterol, triglycerides, and/or lipoproteins in the blood in association with an increased risk of (or current) cardiovascular disease.

#### **Rationale:**

This research highlights the relationship between lipid disorders and chronic diseases which is: Cardiovascular disease is caused by atherosclerosis and is particularly sensitive to lipid levels, Cholesterol screenings look at the fats in blood and help identify those at risk of heart disease, Elevated triglyceride levels may be caused by medical conditions such as diabetes, hypothyroidism, kidney disease or liver disease. Dietary causes may include high alcohol intake and foods containing cholesterol, saturated fat and trans fat. (Fisher, n.d.)

#### **Literature review:**

According to this study Hyperlipidemia in Saudi Arabia (Al-Nozha MM, 2008)

#### **The conclusion was:**

Hyperlipidemia is reaching higher prevalence rates in KSA. This finding may suggest that CAD will soon be a major health problem. Reduction in obesity by adopting healthier eating habits, and increasing physical activity are of considerable importance to our community. (Al-Nozha MM, 2008).

Although this research is very old, it is considered successful and clear, to highlight a specific lipid disorder that is Hyperlipidemia, It has been discovered in this study about more than 10 years ago and that there are many patients

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who suffer from lipid disorders, which gives a red signal to pay attention to this matter and deal with it more seriously and with interest, to reduce lipid disorders and the complications associated with these disorders.

**According to this study:**

Hypercholesterolemia and 5-year risk of development of coronary heart disease among university and school workers in Jeddah, Saudi Arabia. (Abalkhail BA, 2000)

**The conclusion was:**

CHD risk factors are becoming prevalent in our society. The risk of development of CHD in the coming decades is not trivial. Short- and long-term health strategies are recommended to decrease the risk of CHD and improve the quality of life. (Abalkhail BA, 2000).

This study has been closely linked to the correlation with the potential risk of heart disease as a result of developing fatty disorders, especially hypercholesterolemia.

**Research Aim:**

To determine the prevalence of Lipid disorders associated with other important chronic disease.

**Objectives:-**

1. To determine the prevalence of lipid disorders.
2. To determine the age group most affected by lipid disorders.
3. To determine the most affected gender by lipid disorders.
4. The extent of association of lipid disorders patients with other diseases
5. Is there a relationship between lipid disorders and smoking?

**Methodology:-**

**Study design:**

This is an analytical cross-sectional study.

**Study Setting and period:**

This is an analytical cross-sectional study conducted in hospitals (in patient). Internal medicine ward and Cardiology ward, KSA from August 2019 till November 2019.

**Study population and Sampling:**

**Study participants:**

**Inclusion criteria:**

patients with any one of this: Kidney disease, Hypertension, DM and smokers. **Exclusion criteria;** patients with other medical illness.

**Sampling Method:-**

Participants will be especially from hospitals (In patients) carried out by questionnaire.

**Sampling size:**

Sample size was calculated using OpenEpi for sample size calculation for cross sectional studies, hypothesizing the true answers Accordingly, **273** participants were gathered from the hospital patients. score of prevalence of who suffering from kidney disease 23.08%, prevalence of who suffering from hypertension 59.71%.

According to the prevalence study, 78.02% of participants males, 91.94% above 50-year-old, 94.51% non-smoker, 78.75% diabetic patients.

**Measurements:-**

Explanatory variables:

1. Sociodemographic characteristics: gender, age, nationality.
2. Disease-related information: Kidney disease, hypertension, DM, smoking.

**Outcome Measures:-**

The outcome measure is by counting the ratio of the number of patients have kidney disease this will be measured using:

By determining the extent of the disease in addition to the associated with other important chronic disease.

**Prevalence study:-**

will be carried to test the questionnaire if easily understood and the response of the participants. Data from the cross-sectional study will be used to calculate the sample size.

**Data Management and Analysis plan:-**

Data will be entered and analyzed using SPSS version 17.0 Descriptive statistics will be performed and categorical data will be displayed as frequencies and percentages while measures of central tendencies and measures and dispersion will be used to summarize continuous variables. Univariate and multivariate analysis will be performed to investigate association between exposure factors gender, age, nationality, risk factors and associated disease. statistical significance is set at a P value of 0.05 or less.

**Statistical Analysis:**

Data were entered and analyzed using Statistical Package for the Social Sciences (SPSS) version 17. Descriptive statistics were displayed as frequencies and percentages for categorical variables. Measures of central tendencies (the median), and measures and dispersion (minimum – maximum) were used to summarize continuous variables, as the continuous variables were not normally distributed when tested by Shapiro-Wilk test. Univariate analysis was performed to investigate the association between the exposure factors (gender, age, nationality and associated disease), with the outcome on the one hand, this was performed using Chi-squared test and Mann-Whitney test. Multivariate analysis to investigate factors independently was performed using binary logistic regression. P value was set at a significance level of < 0.05.

**Results:-**

In this study, the aim was to determine the prevalence of lipid disorders associated with other diseases, 500 patients' participants, were consecutively recruited from in patients' clinics, during a period from 03/8/2019 to 2/11/2019

Socio-demographic characteristics of the studied group ,83.60%above age 50 year, 69.40%males, most of the participants were Saudis 74.90%, According to disease 31.80% suffer from lipid disorders, 63.60% diabetic patients, 84.40% non-smoker, 89.60% cardiac patients.

**Figure 1:-  
Age**

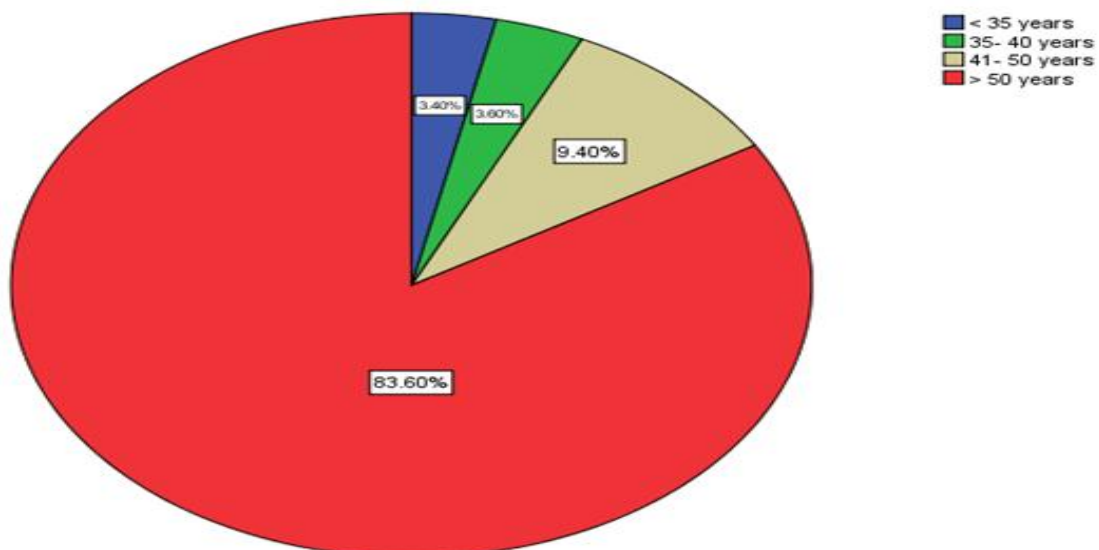


Figure 2:-  
Gender

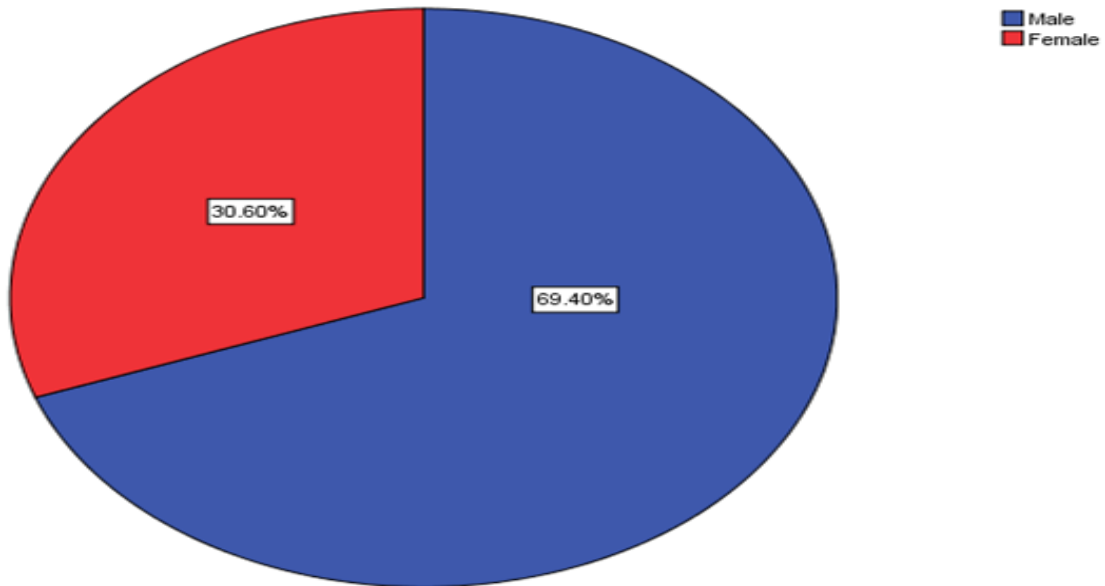
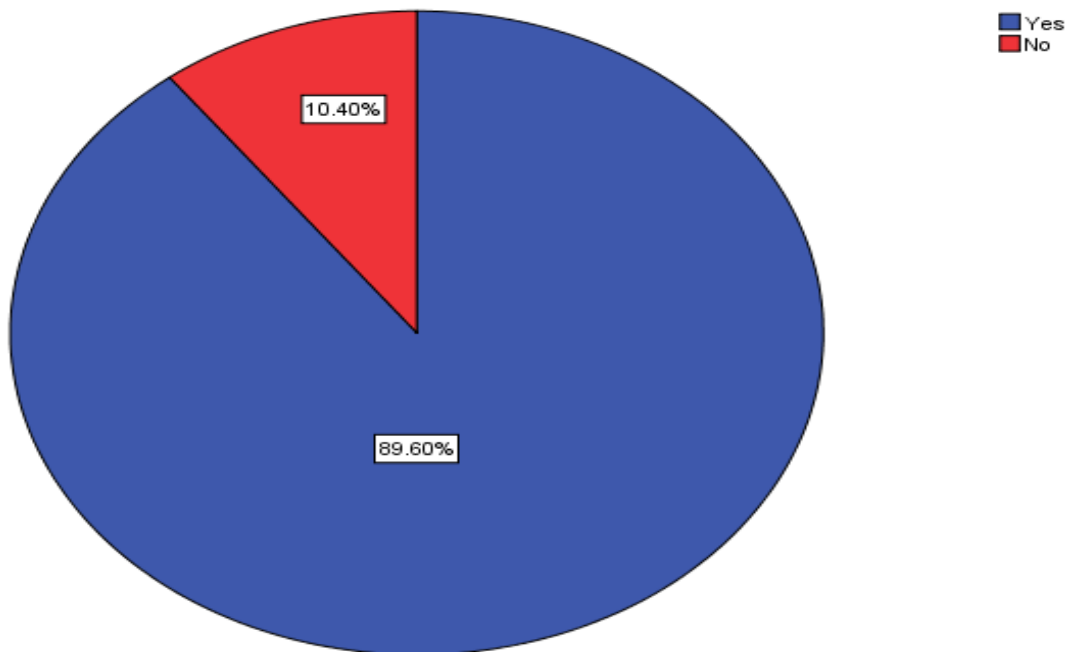
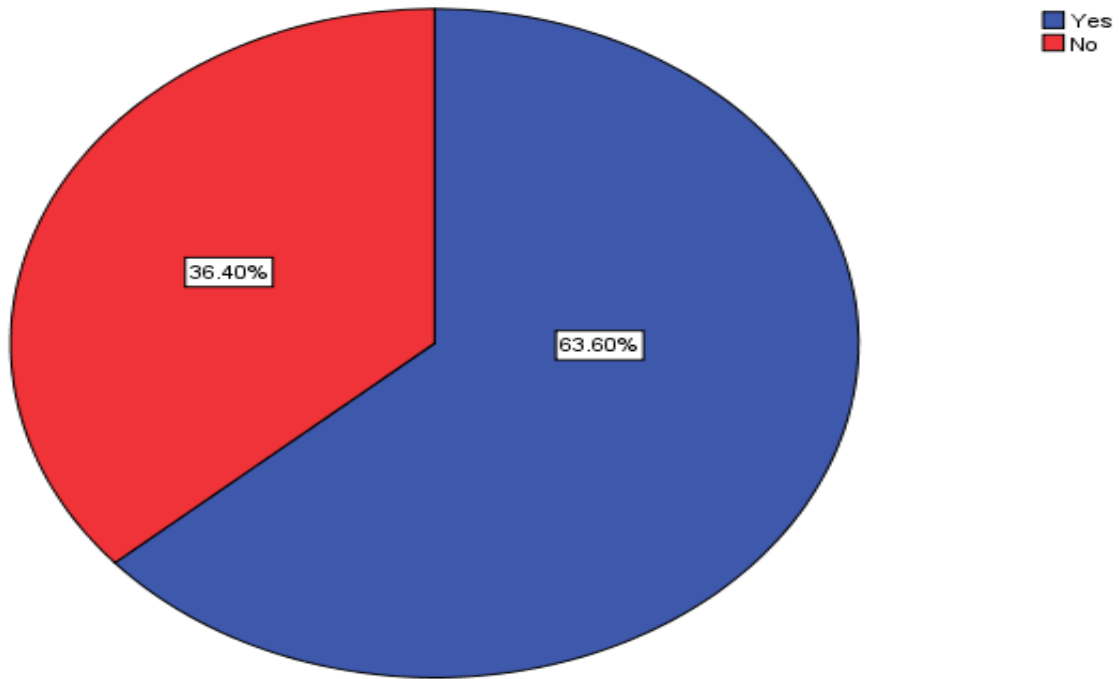


Figure 3:-  
Cardiac



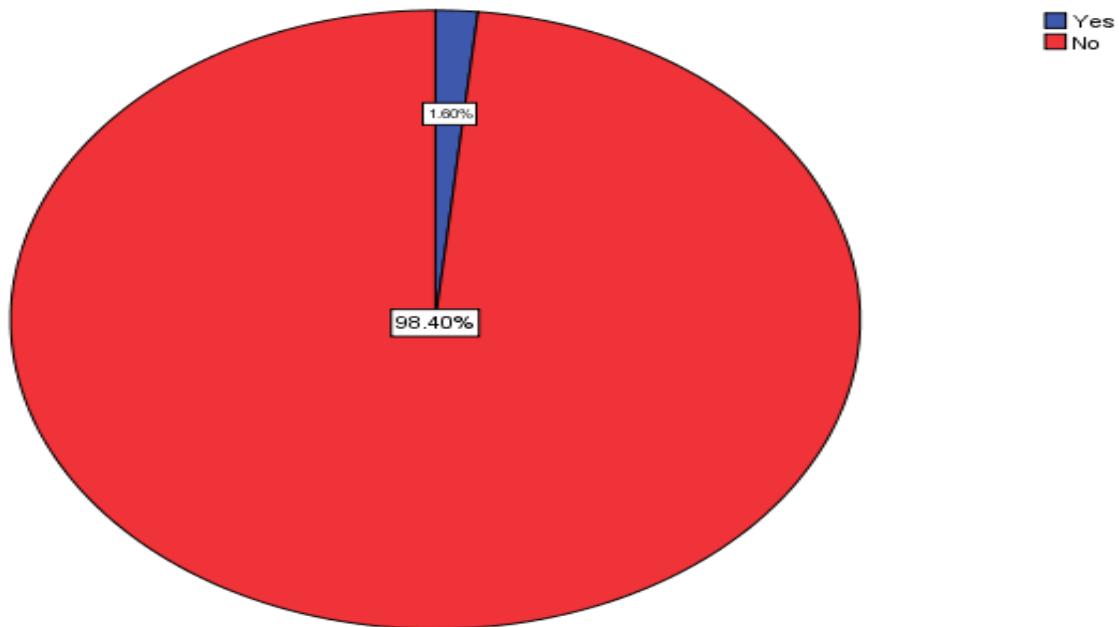
89.60% of the respondents suffer from cardiac diseases.

Figure 4:-  
DM



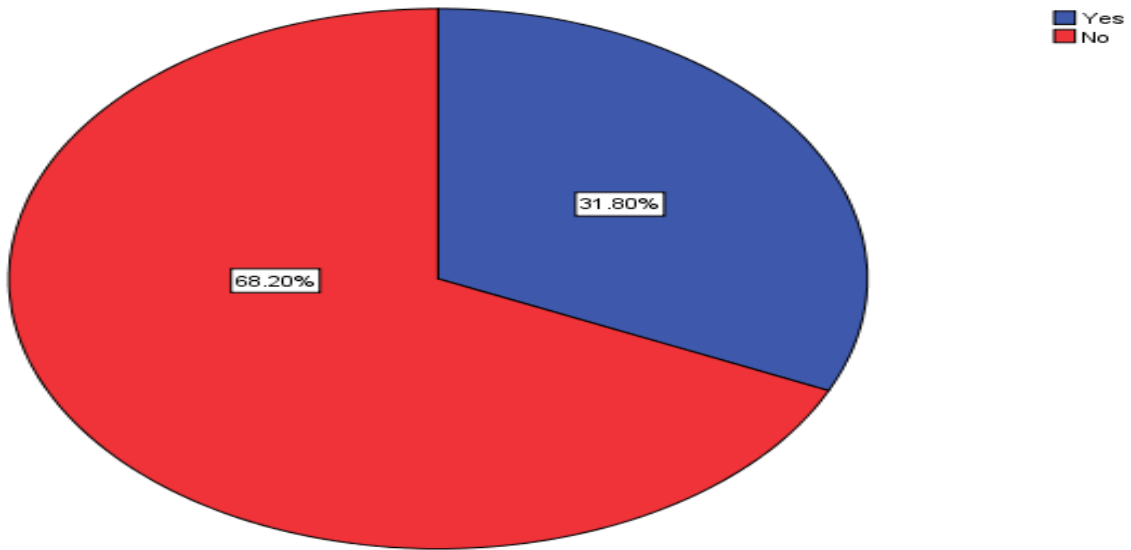
63.60% of the respondents suffer from diabetes.

Figure 5:-  
Obesity



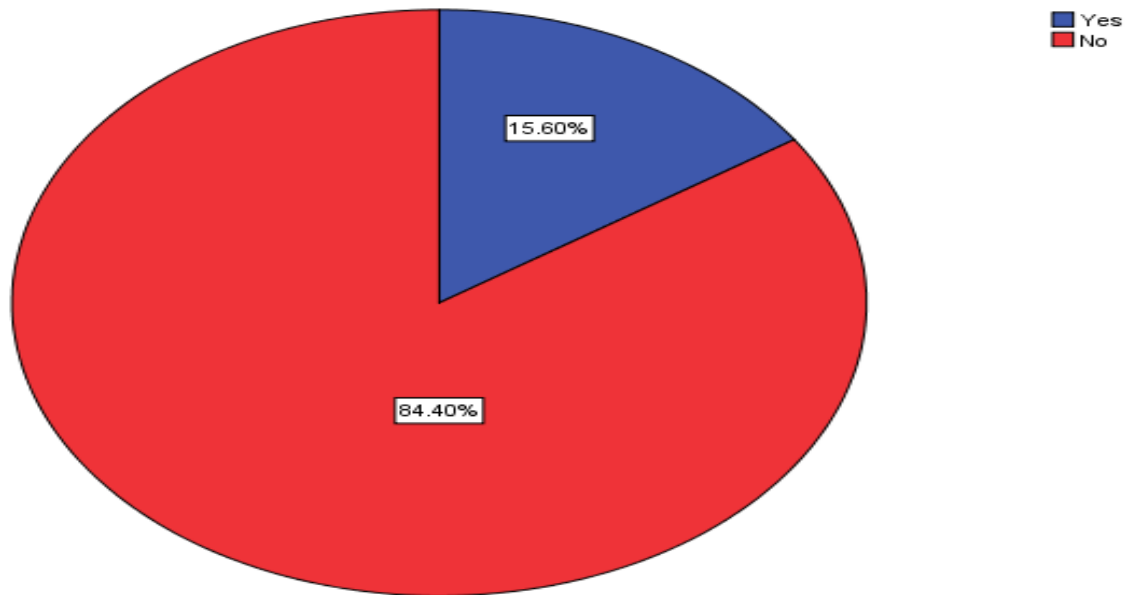
Only 1.60% of the respondents suffer from obesity.

Figure 6:-  
HDL , LDL



68.20% of the respondents suffer from HDL,LDL.

Smoke



Only 15.60% of the respondent's smoke.

**Conclusion:-**

Large number of the respondents do not suffer from HDL and LDL ( Lipid disorders ) despite their old age, the majority are over 50 years old, and this is a good thing.

Through the questionnaire it was found that there is a strong relationship between the age and having a cardiac disease.

Also, through the questionnaire it was found that there is a strong relationship between having a cardiac disease and having lipid disorders .

Also, through the questionnaire it was found that there is a strong relationship between suffering from diabetes and having lipid disorders. There is a strong relationship between smoking and having lipid disorders. There is a strong relationship between suffering from obesity and having lipid disorders There is a strong relationship between suffering from obesity and suffering from diabetes.

### **Recommendation:-**

we recommend setting up health education programs about the geriatric diseases specially lipid disorders and associated disease, this health problem must be presented broadly and beneficially and, in a way, that everyone understands, as most deal with the lipid disorders by ignoring and not being important, work should be done on health conferences and medical discussions on that.

### **Acknowledgement:-**

The authors would like to thank the participants for their great cooperation, Participants will be especially from in patients' hospitals selected and carried out by questionnaire.

We thank the data collectors who collected the data from the patients, they worked hard to collect data greatly, and a large sample number was collected for their great effort.

### **Ethical considerations:-**

Administrative approval will be sought from the unit of biomedical ethics research committee Ethical approval will be sought from the ethical committee of the faculty of medicine, king abdulaziz university. An informed consent will be sought from the participants.

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