

# **Dedication**

To my parents,  
brothers, and friends.

I dedicate this work.

Nadir

## **Acknowledgments**

Thanks are first and last to (ALLAH ), who enabled me to conduct this study and give me strength and patience.

Also I would like to thanks my supervisor, Dr. Badr Eldein Hassan Elabid for his supervisor, time, patience, efforts, critical comments and careful guidance.

# **Abstract**

A cross-sectional study conducted in Khartoum state during the period from February to August 2011, compared the serum levels of total cholesterol, triglycerides, LDL-C and HDL-C, of 45 apparently healthy cigarette smokers as a test group, and 45 apparently healthy non smokers as a control group. Serum lipid profile was determined using spectrophotometer and kits from Biosystem Company.

The means of the serum levels of total cholesterol, triglycerides and LDL-C were all significantly raised ( $p < 0.05$ ) in the test group (smokers) when compared with the control group (non smokers) where as there was no significant difference between the means of the serum levels of HDL-C.

There is a positive correlation between the serum levels of total cholesterol, triglycerides and LDL-C with both, the number of cigarettes smoked per day and duration of smoking in years.

In this study, it is concluded that cigarette smoking is associated with raised serum levels of total cholesterol, triglycerides and LDL-C and hence with increase risk of atherosclerosis and coronary heart disease.

## مستخلص الدراسة

أجريت هذه الدراسة المقطعية خلال الفترة من فبراير وحتى أغسطس 2011م. حيث تمت مقارنة مستويات الدهون المختلفة في مصل الدم (الكلوستيرون، ثلاثي الجلسرايد، البروتينات الشحمية ذات الكثافة العالية وكذلك ذات الكثافة المنخفضة). عند 45 من المدخنين الأصحاء مع 45 من الأصحاء (غير المدخنين) كمجموعة تحكم (مجموعة ضابطة). تم استخدام جهاز التحليل الطيفي اللوني ومحاليل اختبار من شركة بايوسيسستم.

كان هنالك ارتفاع ذو دلالة معنوية حيث كان الاحتمال في كل من المستويات الوسيطة ( $p < 0.05$ ) الاحصائي للمقارنة للكلوستيرون، ثلاثي الجلسرايد، البروتينات الشحمية ذات الكثافة المنخفضة وذلك عند مقارنة المستوي الوسطي عند المدخنين مقارنة بمجموعة التحكم بينما لم يكن هناك اختلاف ذو دلالة معنوية في مستويات البروتين الدهني ذو الكثافة العالية.

في هذه الدراسة ظهر أن هناك ارتباط موجب بين عدد السجائر المدخنة في اليوم ومدة التدخين مع مستويات الكلوستيرون الكلي وثلاثي الجلسرايد وكذلك البروتين الدهني ذو الكثافة المنخفضة.

وعليه تلخص هذه الدراسة علي أن للتدخين أثر واضح في زيادة مستويات الدهون: الكلوستيرول الكلي وثلاثي الجلسرايد والبروتين الدهني ذو الكثافة المنخفضة في الدم مما يجعل المدخنين أكثر عرضة بالاصابة بضيق وتصلب الشرايين وكذلك . بأمراض القلب .

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## **Abbreviations**

ApoL	Apolipoproteins
CHD	Coronary Heart Disease
COPD Disease	Chronic Obstructive Pulmonary
FFA	Free Fatty Acid
HDL-C Cholesterol	High Density Lipoprotein
IDL-C Lipoprotein Cholesterol	Intermediate Density
LCAT	Lecithin Cholesterol Acyl Transfer

LDL-C Cholesterol	Low Density Lipoprotein
M I	Myocardial Infarction
PLs	Phospholipids
rpm	resolution per minute
TAGs	Triglycerides
VLDL-C Cholesterol	Very Low Density Lipoprotein

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