

# **Dedication**

**To my Family,,,**

**And to my Friends,,,**

**I dedicated this research**

**Eman.**

## **Acknowledgements**

I would like to thank Allah who guided my steps in this study.

I would like to thank **Dr. Badr Aldien Hassan Elabid** for this supervision, suggestion and continues support throughout the course of this work.

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## Abstract

Across sectional study conducted during the period from April to September 2012 . In this study, serum total cholesterol, high density lipoprotein cholesterol (HDL-c) and low density lipoprotein cholesterol (LDL-c) were estimated in 90 pregnant women during normal pregnancy (30 in first trimester, 30 in second trimesters, 30 in third trimesters) as a test group, and 40 apparently healthy non pregnant women included as a control group.

The mean of the serum levels of total cholesterol were significantly increased in the pregnant group when compared with the control group (  $P < 0.05$  ). Whereas there was no significant difference between the means of the serum HDL-c and LDL-c of the pregnant group when compared with the control group (  $P > 0.05$  ).

The comparison between the different trimesters of pregnancy for serum total cholesterol and LDL-c shows significant increase, but there is no significant increase for HDL-c.

The study shows a moderate positive correlation between the serum levels of total cholesterol and low density lipoprotein, and duration of pregnancy , and a weak positive correlation between the serum level of high density lipoprotein and duration of pregnancy.

This study concluded that total cholesterol and low density lipoprotein are increased in Sudanese pregnant women, whereas high density lipoprotein is not affected during pregnancy, and the serum level of total cholesterol and LDL-c have a moderate positive correlation with the duration of pregnancy.

## مستخلص الدراسة

أجريت هذه الدراسة المقطعية خلال الفترة ابريل حتى سبتمبر 2012 . حيث تمت مقارنة الكوليسترول الكلي والكوليسترول عالي الكثافة والكوليسترول منخفض الكثافة في مصل الدم عند 90 من السودانيات الحوامل الأصحاء (30 في الأشهر الثلاثة الأولى و 30 في الأشهر الثلاثة الثانية و 30 في الأشهر الثلاثة الثالثة) كمجموعة اختبار و 40 من الأصحاء غير الحمل كعينات تحكم.

اظهرت الدراسة ان هنالك ارتفاع ملحوظ وذو دلالة معنوية في المستوي الوسطي للكوليسترول الكلي عند الحوامل مقارنة بغير الحوامل. بينما لم يكن هنالك ارتفاع يذكر في المستوي الوسطي للكوليسترول عالي الكثافة والكوليسترول منخفض الكثافة عند الحوامل مقارنة بغير الحوامل.

واظهرت الدراسة وجود زيادة ذات دلالة احصائية عند مقارنة الكوليسترول الكلي والكوليسترول منخفض الكثافة في فترات الحمل المختلفة . بينما لا يوجد اختلاف عند مقارنة الكوليسترول عالي الكثافة في فترات الحمل المختلفة. هذه الدراسة اظهرت ايضا ارتباط ايجابي متوسط بين مستوي الكوليسترول الكلي والكوليسترول منخفض الكثافة في مصل الدم وفترة الحمل,بينما يوجد ارتباط موجب ضعيف بين مستويات الكوليسترول عالي الكثافة وفترة الحمل.

ومن هذه الدراسة نستخلص ان هنالك زيادة في مستوي الكوليسترول الكلي والكوليسترول منخفض الكثافة عند النساء الحوامل , بينما لا يتاثر الكوليسترول عالي الكثافة . وان هنالك ارتباط متوسط موجب بين مستوي الكوليسترول الكلي والكوليسترول منخفض الكثافة في فترة الحمل,وارتباط موجب ضعيف بين مستوي الكوليسترول عالي الكثافة وفترة الحمل.

## Abbreviations

HCG	Human Chorionic Gonadotrophin
EPF	Early Pregnancy Factor
PL	Placental Lactogen
TBG	Thyroxine-Binding Globulin
CBG	Cortisol-Binding Globulin
SHBG	Sex Hormone-Binding Globulin
GFR	Glomerular Filtration Rate
LH	Luteinizing Hormone
FSH	Follicle Stimulating Hormone
TSH	Thyroid Stimulating Hormone
GH	Growth Hormone
LPL	Lipoprotein Lipase
LCAT	Lecithin Cholesterol Acyltransferase
CHD	Chronic Heart Disease
HDL-c	High Density Lipoprotein Cholesterol
LDL-c	Low Density Lipoprotein Cholesterol
IDL	Intermediate Density Lipoprotein
VLDL	Very Low Density Lipoprotein

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