

شبكة المعلومات الجامعية







شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها على هذه الأفلام قد أعدت دون أية تغيرات



يجب أن

تحفظ هذه الأفلام بعيدا عن الغبار في درجة حرارة من ١٥-٥٠ مئوية ورطوبة نسبية من ٢٠-٠٠% To be Kept away from Dust in Dry Cool place of 15-25- c and relative humidity 20-40%



بعض الوثائـــق الإصليــة تالفــة



بالرسالة صفحات لم ترد بالإصل

STUDIES ON THE EFFECT OF SOME FOODS ON BLOOD CHOLESTEROL LEVEL IN RATS

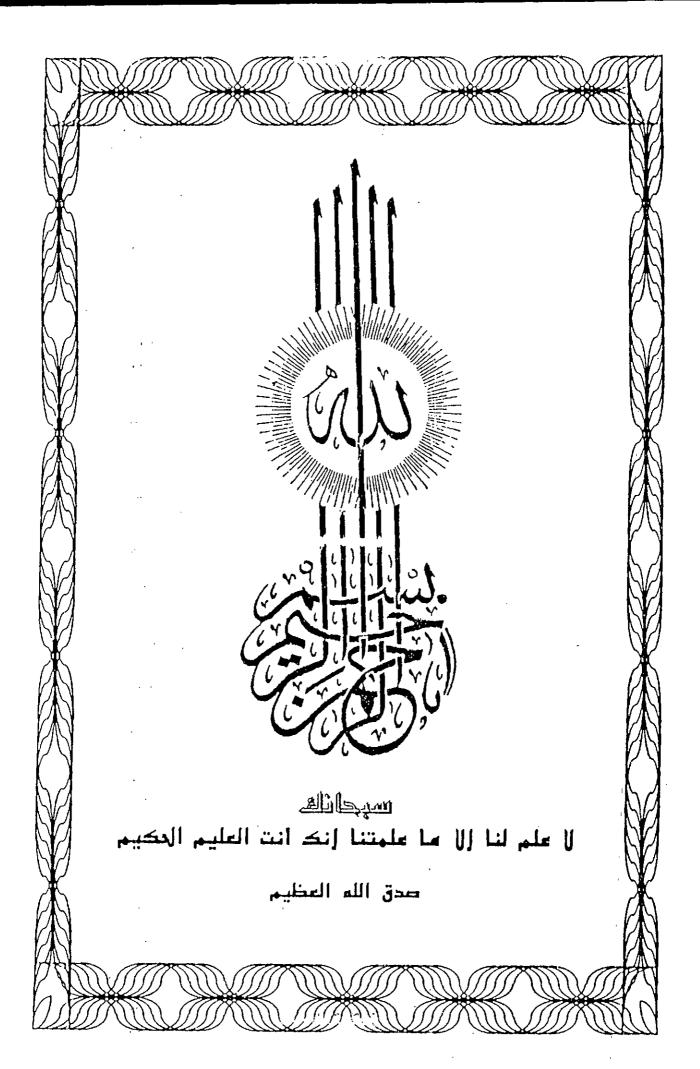
RY

KHALED ALY ABD EL-RHMAN AHMED SHAHEEN FOOD SCIENCE AND NUTRITION DEPARTMENT FACULTY OF HOME ECONOMICS MENOUFIA UNIVERSITY

THESIS
SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE
OF DOCTOR OF PHILOSOPHY

 $I\!\!I\!\!N$

NUTRITION AND FOOD SCIENCE FACULTY OF HOME ECONOMICS MENOUFIA UNIVERSITY



UNDER SUPERVISION

• Prof. Dr. Atiat El-Bahay,

Prof. Of Nutrition and Food Science, Faculty of Home Economics, Helwan University. Ahar. M. Sl. Bahay

• Prof. Dr. Mohamed Samir Abd-Allah El-Dashlouty,

Prof. Of Nutrition and Food Science, Faculty of Home Economics, Menoufia University.

• Prof. Dr. Abd El-Rahman Mohamed Atia, Abdel R. M. M. Prof. Of Nutrition and Food Science, Faculty of Home Economics, Helwan University.

APPROVAL SHEET

KHALED ALY ABD EL-RHMAN AHMED Name

SHAHEEN

STUDIES ON THE EFFECT OF SOME Title

FOODS ON BLOOD CHOLESTEROL LEVEL

IN RATS

DOCTOR OF PHILOSOPHY DEGREE IN **Degree**

NUTRITION AND FOOD SCIENCE

This Thesis for the Ph.D. has been approved by:

1. Prof. Dr. Abdel R. M. All

2. Prof. Dr. Alist M. El Bahay
3. Prof. Dr. M. M. El-Sayael
4. Prof. Dr. Savia S El Margay
5. Prof. Dr. El-D

Committee in Charge

Date: / /1997

MENOUFIA UNIVERSITY

1997

ACKNOWLEDGEMENT

First I want to thank Allah for helping me so much till this study see the light.

It is pleasure to express my sincere thanks and gratitude to **Professor Dr. ATIAT EL-BAHAY**, Prof. of Nutrition and Food Science, Faculty of Home Economics, Helwan University, for her assistance, encouragement, endless enthusiasm, guidance and continuous encouragement in the initiation progress and completing of this study.

I would like also to express my deepest thanks, appreciate and sincere gratitude to **Professor Dr. MOHAMED SAMIR ABD-ALLAH EL-DASHLOUTY**, Prof. Of Nutrition and Food Science, Faculty of Home Economics, Menoufia University, for his supervision, guidance and valuable advice.

Grateful acknowledgment and sincere thanks are also due to **Professor Dr. ABD EL-RAHMAN MOHAMED ATIA**, Prof. of Nutrition and Food Science, Faculty of Home Economics, Helwan University, for his supervision and guidance as well as offering research facilities needed to make this work possible.

I wish also to express my thanks and gratitude to my **FAMILY** for valuable help.

KHALED SHAHEEN

TO THE SOUL OF MY FATHER

CONTENTS

Objects	Pages
INTRODUCTION	1
AIM OF THE STUDY	3
REVIEW OF LITERATURE	4
• Fiber definition and classification	4
• Role of fiber in the metabolism of lipids	9
• Cholesterol suppression and other benefits of fibers -	15
• Effect of fiber on coronary heart disease	47
• Nutritional programs (guidelines)	50
MATERIALS AND METHODS	55
• Materials	55
• Blood samples	55
• Experimental animals	56
• Separation of blood serum	58
• Analytical methods	58
• Determination of serum total lipids	58
• Determination of serum total cholesterol	59
• Determination of serum triglycerides	61
• Determination of serum HDL-cholesterol	62
• Determination of serum LDL-cholesterol	63
• Determination of plasma total protein	63
Determination of plasma albumin	64

	•		
	Determination of serum uric acid	65	
	Determination of serum creatinine	66	
	Determination of plasma alkaline phosphatase	68	
	• Determination of serum glotamic oxaloacetic	70	
	transaminases (GOT) and glotamic pyruvic		
	transaminases (GPT)		
•	Statistical analysis	73 -	
	RESULTS AND DISCUSSION	74	
	RECOMMENDATIONS	160	
, *	SUMMARY	161	
,	REFERENCES	164	
:	ARARIC SUMMARY		

. .

.•

..

·

.

LIST OF TABLES

Table No.	Page
Table (1): Total Serum Lipids of Experimental Animals Fed	76
Apple Fibers (1, 3, 5%) Compared To Basal Diet With And	
Without 1% Cholesterol (g/L)	
Table (2): Total Serum Lipids Of Experimental Animals Fed	77
Broad bean Fibers (1, 3, 5%) Compared To Basal Diet With And	
Without 1% Cholesterol (g/L)	
Table (3): Total Serum Lipids Of Experimental Animals Fed	78
Carrot Fibers (1, 3, 5%) Compared To Basal Diet With And	
Without 1% Cholesterol (g/L)	
Table (4): Total Cholesterol Of Experimental Animals Fed	83
Apple Fibers (1, 3, 5%) Compared To Basal Diet With And	
Without 1% Cholesterol (mg/dL)	
Table (5): Total Cholesterol Of Experimental Animals Fed	84
Broad Been Fibers (1, 3, 5%) Compared To Basal Diet With And	
Without 1% Cholesterol (mg/dL)	
Table (6): Total Cholesterol Of Experimental Animals Fed	85
Carrot Fibers (1, 3, 5%) Compared To Basal Diet With And	
Without 1% Cholesterol (mg/dL)	
Table (7): Serum Triglycerol Of Experimental Animals Fed	89
Apple Fibers (1, 3, 5%) Compared To Basal Diet With And	
Without 1% Cholesterol (mg/dL).	
Table (8): Serum Triglycerol Of Experimental Animals Fed	90
Broad Bean Fibers (1, 3, 5%) Compared To Basal Diet With And	

Without 1% Cholesterol (mg/dL).	
Table (9): Serum Triglycerol Of Experimental Animals Fed	91
Carrot Fibers (1, 3, 5%) Compared To Basal Diet With And	-
Without 1% Cholesterol (mg/dL).	
Table (10): Serum HDL Of Experimental Animals Fed Apple	95
Fibers (1, 3, 5%) Compared To Basal Diet With And Without	
1% Cholesterol (mg/dL).	
Table (11): Serum HDL Of Experimental Animals Fed Broad	96
Bean Fibers (1, 3, 5%) Compared To Basal Diet With And	
Without 1% Cholesterol (mg/dL).	
Table (12): Serum HDL Of Experimental Animals Fed Carrot	97
Fibers (1, 3, 5%) Compared To Basal Diet With And Without	
1% Cholesterol (mg/dL).	
Table (13): Serum LDL Of Experimental Animals Fed Apple	101
Fibers (1, 3, 5%) Compared To Basal Diet With And Without	
1% Cholesterol (mg/dL)	
Table (14): Serum LDL Of Experimental Animals Fed Broad	102
Bean Fibers (1, 3, 5%) Compared To Basal Diet With And	
Without 1% Cholesterol (mg/dL)	
Table (15): Serum LDL Of Experimental Animals Fed Carrot	103
Fibers (1, 3, 5%) Compared To Basal Diet With And Without	
1% Cholesterol (mg/dL)	
Table (16): Serum Alkaline Phosphatase Of Experimental	107
Animals Fed Apple Fibers (1, 3, 5%) Compared To Basal Diet	
With And Without 1% Cholesterol (µ/L)	
Table (17): Serum Alkaline Phosphatase Of Experimental	108