



شبكة المعلومات الجامعية  
التوثيق الإلكتروني والميكروفيلم

# بسم الله الرحمن الرحيم



**MONA MAGHRABY**



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# شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلم



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# جامعة عين شمس التوثيق الإلكتروني والميكروفيلم

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**MONA MAGHRABY**



Ain Shams University  
Faculty of Specific Education  
Home Economics Dept.

# **Effect of medium -fat diets containing flaxseed, sesame seeds and their oils on non-alcoholic fatty liver disease in rats.**

**Presented by**

**Samar El Sayed Mohamed El Sayed**

**Researcher in Home Economics Dept. Nutrition & Food Sciences**

To Complete obtaining to the Philosophy PHD of education studies in Home Economics Dept. Nutrition & Food Sciences

**Under Supervision OF**

**Prof. D. Ashraf Abd El-Aziz Abd El-Megeid**

**Prof. of Nutrition & Former Dean of Faculty of Home Economic,  
Helwan university**

**Prof Dr. Ayman Fathey Khalil**

**Nutrition & Food Sciences  
Home Economics Dept.  
Faculty of Specific Education.  
Ain – Shams university**

**Assist. Prof Dr. Ereny Wilson  
Nagib**

**Nutrition & Food Sciences  
Home Economics Dept.  
Faculty of Specific Education.  
Ain – Shams university**

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وقد شكلت لجنة المناقشة والحكم من :

أ.د/ أشرف عبد العزيز عبد المجيد (مشرفاً ومقرراً)

أستاذ التغذية و عميد كلية الاقتصاد المنزلي بجامعة حلوان (سابقاً)

أ.د/ أسامة السيد مصطفى (مناقشاً داخلياً)

أستاذ التغذية و علوم الأطعمة قسم الاقتصاد المنزلي وعميد كلية التربية النوعية جامعة عين شمس .

أ.د/ هناء فاروق محمد المهيري (مناقشاً خارجياً)

أستاذ التغذية و علوم الأطعمة قسم الاقتصاد المنزلي - كلية التربية النوعية. ميت عمر - جامعة المنصورة .

أ.د/ أيمن فتحي خليل (مشرفاً)

أستاذ التغذية و علوم الأطعمة قسم الاقتصاد المنزلي كلية التربية النوعية جامعة عين شمس

أ.م.د / إيريني ولسن نجيب بسطا (مشرفاً)

أستاذ التغذية و علوم الأطعمة المساعد قسم الاقتصاد المنزلي كلية التربية النوعية جامعة عين شمس

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أ.د/ أشرف عبد العزيز عبد المجيد	(.....)	(مشرفاً ومقرراً)
أ.د / أسامة السيد مصطفى	(.....)	(مناقشاً داخلياً )
أ.د/ أيمن فتحي خليل	(.....)	(مشرفاً)
أ.د / هناء فاروق محمد المهيري	(.....)	(مناقشاً خارجياً )
أ.م.د / إيريني ولسن نجيب بسطا	(.....)	( مشرفاً )

## **APPROVAL SHEET**

**Effect of medium -fat diets containing flaxseed, sesame seeds and their oils on non-alcoholic fatty liver disease in rats**

**By**

**Samar El Sayed Mohamed El Sayed**

**Researcher in Home Economics Dept. Nutrition & Food Sciences**

**This thesis for Master Degree has been approved by:**

**Prof. D. /Ashraf Abd El-Aziz Abd El-Megeid**

Prof. of Nutrition & **Former** Dean of Faculty of Home Economic,  
Helwan University

**Prof Dr. Ayman Fathey Khalil**

Nutrition & Food Sciences - Home Economics Dept.  
Faculty of specific education. Ain – Shams University

**Assist. Prof Dr. Eriny Willson Nageb**

Assest. Professor Nutrition & Food Sciences - Home Economics Dept.  
Faculty of specific education. Ain – Shams Ununiversity

Date of examination: / / 2020

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## ABSTRACT

The present research was conducted to study the effect of medium fat diets MFD containing flaxseed, sesame seeds and their oils on non-alcoholic fatty liver disease (NAFLD) of rats, through some nutritional and biochemical parameters, in addition to estimate the chemical composition and fatty acids of the two types of tested seeds which used in this study. Fifty-four adult male Albino rats , were divided into two main groups. The first main group (6 rats) fed on basal diet, as a control negative group. The second main group (48 rats) fed on high fat diet (HFD) for 6 weeks to induce non-alcoholic fatty liver disease. Non-alcoholic fatty liver disease rats were randomly assigned to eight equal subgroups: (1): fed on high fat diet . (2 ): medium fat diet (+ve)<sup>2</sup>. (3): replace (10% sheep tallow with 10% flax seeds oil). (4): replace (10% sheep tallow with flax seeds 10% oil). (5): replace (10% sheep tallow with 10% sesame oil). (6): replace (10% sheep tallow with sesame seeds 10% oil). (7): replace (10% sheep tallow with 5% flaxseeds oil and 5% sesame oil). (8): replace (10% sheep tallow with sesame seeds with 5% oil and flax seeds 5% oil). The results indicated that, treating NAFLD rats with MFD containing (10% flaxseeds oil, flaxseeds which provided the diet with 10% oil, 10% sesame oil, sesame seeds which provided the diet with 10% oil, 10% (flaxseeds oil and sesame oil) and (sesame and flaxseeds which provided the diet with 10% oil) led to significant decrease in body weight gain %, organs weight%, peritoneal fat pad PFP /body weight % PFP, leptin, glucose, lipid profile including (cholesterol, triglycerides, LDL-c and VLDL-c), liver enzymes including (AST, ALT and ALP), while these treatments induced significant increase in feed intake, HDL-c and antioxidant enzymes including (GSH-Px, SOD and CAT). The medium fat diet MFD alone or MFD containing the tested seeds and their oils improved the nutritional and biochemical parameters in non-alcoholic fatty liver diseases, especially the group fed on MFD containing the combination of flaxseeds and sesame seeds which provided the diet with 10% oils, followed by the group fed on MFD containing 10% combination of these oils.

**Key words:** Flaxseeds, Sesame seeds, Non-alcoholic fatty liver, High fat diet, Lipid profile, Liver enzymes, Antioxidant enzymes and rats.

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