



*Lorestan University of Medical Sciences
School of Nursing & Midwifery*

A Thesis

Presented for the

Degree of Master of Sciences

In Medical Surgical Nursing

Title

**The Effect of Flaxseed on Blood Pressure, Serum Cholesterol and Body
Mass Index In Hypertensive Patients**

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2018

Abstract

The effect of flaxseed on blood pressure, serum cholesterol and Body Mass Index in hypertensive patients

Introduction: Due to the role of antioxidant and biologically active substances in flaxseed, the present study were conducted to determine the effect of flaxseed supplementation on blood pressure, cholesterol levels and body mass index in hypertensive patients.

Materials and Methods: In a triple blind clinical trial, 112 patients between 35 and 70 years old were randomly allocate into two groups of 10 and 30 grams flaxseeds and one placebo group for 12 weeks. At the bigining of the study, the end of the sixth week and the end of the twelfth week were measured for systolic blood pressure, diastolic blood pressure, and total serum cholesterol and body mass index. Nutrient levels were measured by N4 software. Physical activity were evaluated using the short form of IPAQ and food intake by a feed reminder questionnaire. Data were analyzed by SPSS-22, repeated measures test and covariance analysis at a significance level of $P < 0.05$.

Results: The interaction between experimental and time group was significant on the mean systolic blood pressure, diastolic blood pressure, serum cholesterol and body mass index ($P = 0.001$; $P < 0.001$; $P = 0.032$; $P = 0.001$). The adjusted mean of systolic blood pressure decreased from 6 to 12 weeks in the 30grams flaxseed group (4.33 units), decreased in the 10 grams flaxseed group (1.83 unit), and increased in the control group (2.92 unit). The adjusted diastolic blood pressure decreased from 6 weeks to 12 weeks decreased in the 30 grams flaxseed group (3.10 unit), decreased in the 10 grams flaxseed group (1.83 unit) and increased in the control group (1.25 unit). The adjusted mean of cholesterol levels decreased from 6 weeks to 12 weeks in the 30 grams flaxseed group (3.04 unit), decreased in the 10 grams flaxseed group (0.88 unit) and increased in the control group (0.44 unit). Also, the adjusted mean of body mass index decrease from sixth to twelfth weeks in the 30 grams flaxseed group (0.33 unit), decreased in the 10 grams flaxseed group (0.24 unit) and decreased in the control group (0.03 unit).

Conclusion: By adjusting the effect of base values, the use of flaxseed from the end of the sixth to the twelfth week resulted in a significant decrease in systolic blood pressure, diastolic blood pressure, and serum cholesterol and body mass index in hypertensive patients. Therefore, it is suggested that this study be carried out with a more statistical society and a longer period. It is also recommended to supply your flaxseed products for ease of consumption.

Key words: Flaxseed, Herbal medicine, Hypertensive, Cholesterol, Body mass index, randomized clinical trial