

# Investigating on Protective Effects of Barley and Oat Seeds Extracts on Pathological Changes of Blood Factors in Female Rats Fed with High-Fat Diet.

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## **Abstract:**

**Introduction:** Cardiovascular diseases are now considered as the first cause of death in industrialized countries. Over the past few decades in most countries, the use of alternative treatments and especially herbal therapy and dietary supplements are increased by people to improve a variety of diseases such as high blood cholesterol. So the main goal of the study is investigating on protective effects of barley and oat seeds extracts on some blood parameters (HDL, LDL, and glucose) in female rats fed with a high-fat diet. **Methods:** in the study, a number of 50 female Wistar rats weighing approximately  $20 \pm 300$  g, were bought from Jahrom's animals house. Then they were divided into 5 groups with 10 rats per each, including control group (no material received), blank group (received 1% cholesterol by weight of consumed food), experimental 1 (daily received 1% cholesterol by weight of consumed food, and 125 mg/kg.BW dose of barley extract), experimental 2 (daily received 1% cholesterol by weight of consumed food, as well as 125 mg/kg.BW dose of oat extract), experimental 3 (daily received 1% cholesterol by weight of consumed food, as well as 62.5 mg/kg.BW dose of oat extract). At the end of the experiment animals were bled and HDL, LDL and glucose factors were evaluated. **Results:** pathological examinations of blood factors showed that LDL level in the experimental group that simultaneously received barley and oat had significant reduction than the group that received cholesterol alone. Also LDL level had significant increase in the experimental group receiving oats only compared to the group receiving barely and oat simultaneously ( $P < 0.05$ ). HDL concentration showed also a significant decrease in all the experimental groups and the amount of glucose showed significant reduction in the experimental groups receiving barley + oat, and barley and oat only in compared to the control group ( $P < 0.05$ ). **Conclusions:** given to the results can state that barley and oat extracts reduce the risk of cardiovascular diseases due to having vitamins and effective ingredients. The simultaneous use of barley and oat extracts is recommended.

## **Keywords:**

Barley; Oat; Pathological Changes; Blood Factors; Rat