# COMPARISON OF THE EFFECTS OF COMBINED TRAINING WITH AND WITHOUTZINGEBER SUPPLEMENT ON LIPID PEROXIDATION AND ANTIOXIDANT CAPACITY IN TYPE 2 DIABETIC WOMEN

# Roya Askari1[[1]](#footnote-1)\*, Amir Hossein Haghighi1, Neda Badri1

1. *Sports Physiology Department, Faculty of Sport Sciences, Hakim Sabzevari University, Sabzevar, Iran*

**ABSTRACT**

**Background:** Increasing blood glucose levels is associated with a reduction in the antioxidant defense of the body. The purpose of this study was to compare the effect of aerobic resistance exercises with and without ginger on some of the oxidative and antioxidant indices in type 2 diabetic women.

**Methods:** Twenty-two type 2 diabetic women with a mean age of 49.47±4.36 years, BMI 31.3±16.3 kg / m2, height 0.56±0.04 meters were selected randomly and they were divided into two experimental and control groups. Both groups performed 12 weeks, 3 sessions per week, exercises with intensity of 75-85%, 1RM in 8 stations, and after 5 minutes of rest, aerobic training exercises with an intensity of 75-85% of MHR. A daily group of 800 mg capsules of ginger rhizome powder and the other group consumed capsules containing wheat flour. 24 hours before and after training, MDA, TAC, SOD, GSH, HbAlc, glucose and insulin and body composition were measured.

**Results:** 12 weeks of combination exercise caused a significant decrease in glycosylated hemoglobin, insulin resistance, insulin resistance, lipid percentage, and a significant increase in TAC and GSH compared to baseline (P <0.05), while SOD and MDA Did not have any significant effect.

**Conclusion:** Combined exercise with and without zinc seems to improve antioxidant and some of the body composition indices in type 2 diabetic women.

**Keywords:** Combined exercises, Ginger supplement, lipid peroxidation, Antioxidant Capacity, Diabetic Women

**DIAGNOSTIC VALUES OF CLINICAL FINDINGS IN PHYSICIANS’ ESTIMATION: THE CASE OF ASCITES**

Farzane Saeidifard1, Akbar Soltani1, Fereshteh Ghadiri1, Sahar Manavi1, Motahareh Taleba1, Moein Foroughi1, Parvaneh Ansari1, Mostafa Qorbani2, 3, Hamideh Moosapour1[[2]](#footnote-2)\*

1. *Evidence Based Medicine Research Center, Endocrinology and Metabolism Clinical Sciences Institute****,*** *Tehran University Of Medical Sciences, Tehran, Iran*
2. *Department Of Community Medicine, Alborz University Of Medical Sciences, Karaj, Iran*
3. *Endocrinology and Metabolism Research Center, Endocrinology and Metabolism Clinical Sciences Institute, Tehran University Of Medical Sciences, Tehran, Iran*

**ABSTRACT**

**Background:** It is critical to understand how accurately physicians can estimate the importance of each clinical finding in estimating the probability of a specific diagnosis in the process of clinical decision making. This study aimed to investigate whether physicians’ estimates of the importance of various clinical findings of ascites correlated with the positive likelihood ratios of these findings in diagnosis of ascites.

**Methods:** One hundred and ten physicians were asked to respond to a questionnaire. In this questionnaire they were presented with a clinical scenario about a patient suspected of having ascites followed by a list of clinical findings. Participants were asked to assign a weight (between 0 and 100%) to each clinical finding based on their perception of how much the presence of that finding changed the probability of ascites for the patient. Positive likelihood ratios of those findings were extracted from current best evidence. We investigated if the weights assigned by physicians were associated with the positive likelihood ratios of those findings.

**Results:** Significant differences were discovered between the weights assigned by the physicians and the positive likelihood ratios for each clinical finding. Significant positive correlation was observed between the weights assigned by different groups of physicians.

**Conclusion:** Physicians inaccurately estimated the importance of various clinical findings in the diagnosis of ascites. Further research is needed to determine if such inaccurate estimations would lead to any adverse clinical outcomes.

**Keywords:** likelihood ratio, ascites, Bayes theorem, clinical decision making

**THE CORRELATION BETWEEN SELF-CARE AND HEALTH LITERACY IN PATIENTS UNDERGOING HEMODIALYSIS**

Sima Zahedi1[[3]](#footnote-3)\*, Ali Darvishpoor Kakhaki1, Meimanat Hosseini2, Zahra Razzaghi3

1. *Departmant of Medical Sergical Nursing, School of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences, Tehran, Iran*
2. *Departmant of Health Nursing, School of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences, Tehran, Iran*
3. *Departmant of Biostatistics, School of Paramedical, Shahid Beheshti University of Medical Sciences, Tehran, Iran*

**ABSTRACT**

**Background:** Hemodialysis is the most common treatment in patients with end stage of renal disease (ESRD). Patients undergoing hemodialysis due to multiple drug treatments, special food programs and being able to cope with their illness need to self-care activities. Due to lack of information about the role of health literacy in effectiveness of self-care in these patients, this research aimed to determine the correlation between self-care and health literacy in patients undergoing hemodialysis in Valiasr Hospital of Arak in 2015.

**Methods:** In this descriptive correlational study, 93 undergoing hemodialysis patients selected by objective sampling method. Data collecting instruments were "demographic questionnaire", "self-care questionnaire " and "Health Literacy for Iranian Adults questionnaire". The content and face validity of questionnaires was assessed. Reliability assessed through internal consistency (Cronbach's alpha) and Intra- Class Correlation Coefficient. Data were analyzed by SPSS, version 21, using*,* Kolmogorov–Smirnov test, Descriptive Statistics and Kolmogorov–Smirnov test*.*

**Results:** The results showed that 79/6% of patients were male and 20/4% were female with an average age of 54/18 ± 13/9 year. The mean score of self-care and health literacy were 146/90± 45/46, 88/14± 36/42 and were at a moderate level. The lowest score of self-care and health education related to the field of fluid intake and decision-making and behavior. There was a significant positive correlation between self-care and health literacy (p<0/0001, r= 0/6).

**Conclusion:** The existence of a significant positive correlation between self-care and health literacy showed that the hospital managers and the nurses must pay more attention to what patients undergoing hemodialysis need. Considering the importance of health literacy in the care of patients undergoing hemodialysis, it seems necessary to nursing administrators and Politicians use educational programs tailored to the patient's health literacy level in order to promote their health and quality of life.

**Keywords:** Chronic Kidney Disease, Hemodialysis, Self-care, Health Literacy

**THE EFFECTS OF ROMARINUS OFFICINALIS LEAF HYDROALCOHOLIC EXTRACT ON HISTOPATHOLOGY AND ENZYMES ACTIVITY OF LIVER IN ALLOXAN INDUCED DIABETIC RATS**

Hanieh sadat Bagherieh hagh1, Sima Nasri1, Parisa Kerishchi Khiabani2[[4]](#footnote-4)\*

1. *Department of Biology of Animal Science, Faculty of Science, Payame Noor University, Tehran, Iran*
2. *Department of Biology of Animal Science, Islamic Azad University, Ghods Unit, Department of Biology, Tehran, Iran*

**ABSTRACT**

**Background:** Diabetes produces free radicals and damages the liver. The aim of this study was to investigate the effects of *Rosmarinus Officinalis* leaf hydroalcoholic extract on histopathology and enzymes activity of liver in alloxan induced diabetic rats.

**Methods:** In this study, 50 adult male Wistar rats weighing 200 to 250 grams, were divided randomly into 5 groups of 10; non-diabetic control, diabetic control and 3 experimental groups (diabetic rats treated with the dosage of 50mg/kg, 100mg/kg and 200mg/kg rosemary leaf extract intraperitoneally for 14 days).

Diabetes was induced in rats by intraperitoneal injection of a single dose 120 mg/kg alloxan was done. At the end of the treatment period, blood samples were taken from the left ventricular heart of mice and aspartate aminotransferase (AST / SGOT), alanine aminotransferase (ALT / SGPT) and alkaline phosphatase (ALP) in serum were measured. Immediately liver was removed and histological samples were fixed in 10% formalin and then stained with hematoxylin-eosin technique (H & E).

**Results:** In diabetic rats, unlike control mice, the liver enzymes (AST, ALT and ALP) increases, because of damage of liver tissue (p<0.01).

The level of liver enzymes (AST, ALT and ALP) in rats treated with doses 50mg/kg, 100mg/kg and 200mg/kg of rosemary leaf extract showed a significant reduction in these enzymes compared to control diabetes (p<0.01).

**Conclusion:** Histological studies showed reduced inflammation in the liver lobule and the port in the experimental groups. The third experimental group had greatest impact on reducing liver inflammation and space ports showed lobule. Histologically, tissue changes were in line with biochemical changes.

The effects of *Rosmarinus Officinalis* leaf hydroalcoholic extract because of its high antioxidant properties, reduce free radicals and inflammation of the liver damage caused by diabetes by inhibiting the enzyme is reduced.

**Keywords:** Rosmarinus Officinalis*,* Hydroalcoholic Extract, Alloxan, Liver, Diabetes, Aspartate Aminotransferase (AST), Alanine Aminotransferase (ALT), Alkaline Phosphatase (ALP), Male Rats

**COMPAR TWO DIFFERENT ENDURANCE TRAINING INTENSITIES ON PERILIPIN 3 PROTEIN EXPRESSION IN SKELETAL MUSCLE, SERUM GLUCOSE LEVELS AND INSULIN IN STREPTOZOTOCIN-INDUCED DIABETIC RATS**

Mahdi Ghafari1 [[5]](#footnote-5)\*, Mohamad Faramarzi2, Ebrahim Banitalebi1

1. *Department of Exercise physiology, University of Shahrekord, Shahrekord ,Iran*

**ABSTRACT**

**Background:** Lipid metabolism disorder in muscle plays an important role in creating insulin resistance in skeletal muscle. Perilipin 3 (PLIN3) is one of PLIN proteins in regulation of muscle lipolysis. The purpose of this study was compared two different endurance training intensities on perilipin 3 protein expression in skeletal muscle, serum insulin levels and glucose in streptozotocin-induced diabetic rats.

**Method:** 24 male Wistar rats were randomly divided into three groups. Low and high and high-intensity and control group. Endurance training was applied three times a week for eight weeks. The low-intensity exercise group was trained to the treadmill by running at a speed of 60 percent of vo2max and high-intensity training 85%Vo2max. The expression of the plin2 protein was analyzed by Western blot technique. To determine the significance of differences between the groups, the results were analyzed using one-way ANOVA and Tukey post-hoc test (α= 0.05).

**Results:** Direct comparison between the groups by ANOVA showed significant differences in perilipin 3 (p=0.0006). Tukey's post hoc test showed that there was a statistical difference between the mean values of the diabetic control group and high-intensity endurance group (P = 0.01). Perilipin 3 not significantly increased in low-intensity exercise compared to the control group (P=0. 67). Also, the comparison between groups showed, there was significant difference between the three groups. The serum levels of glucose and insulin (respectively p=0.001 and p=.001).

**Conclusion:** The results of the present study showed that the Effects of with high-intensity endurance training increase the expression perilipin 3 in diabetes rats.

**Keywords**: Diabetes, Perilipin 3, Endurance training, Insulin resistance

**THE COMPARISON EFFECTS OF 10 WEEK OF AEROBIC EXERCISE AND USE VITAMIN D ON PLASMA APELIN AND INSULIN RESISTANCE IN OVERWEIGHT WOMEN**

Laleh Ranjbar 1, Fazaneh Taghian1[[6]](#footnote-6)\*, Mehdi Hedayati 2

1. *Department of Sport Physiology, Faculty of Physical Education and Sports Science, Islamic Azad University, Isfahan Branch, (Khorasgan), Isfahan, Iran*
2. *Endocrinological Molecular Research Center, Endocrinology Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran*

**ABSTRACT**

**Background:** Apelin is an Adipokine which is recently discovered and widely secreted from white adipose tissue and in fat and overweight person, apelin values and gene expression increase .In this study, the effect of one period aerobic exercise and vitamin D consumption on weight, plasma apelin values and insulin resistance in overweight women was researched.

**Method:** In order to doing this reasearch 40 women whom have over weight with , average old , weight , height, BMI and WHR respectively : (30.37 ± 6.91) years old , (74.89 ± 12.97) kg , (157 ± 7.02) m , (30.08 ± 3.95) kg/m2 , (0.81 ± 0.07). After passing the medical sepration dived to 4 experimental group: 1st experiment group (aerobic exercise) n=10, 2nd experimental group (aerobic exercise and vitamin D) n=10, 3rd experimental group (vitamin D) n=10 and control group n=10. At first body composition was measured th included: BMI, WHR, weight, waist and hip size. After that the blood sample was taken from triables. (Fasting) and amount of the apelin, glucose, insulin, vitamin D, triglycerides, cholesterol, LDL and HDL were measured. Then experimental group 1 and 2 were encounterd and emotionalized by an aerobic exercise (treadmill) after 10 weeks all of the measure mented conversionxls were measure again befor the test. For comparisoning of the groupa that befor and after the test was used from –t test and if was used from the variance test for comparisoning two group.

**Results:** results showed that after 10 week of aerobic exercise an vitamin D using : BMI, WHR, apelin, cholesterol, LDL, glucose, insulin and insulin resistance were reduced, a triglyceride also decrease and HDL had a significant increasing.

**Conclusion:** Result confirmed the positive effect of the aerobic exercise on body compositions apelin and plasmas Lipoprotein and also showed that using vitamin D using in obese people and people who have overweight can be beneficials.

**Keywords:** Adipokine, Apelin, Vitamin D, Aerobic Exercise

1. \* Sports Physiology Department, Faculty of Sport Sciences, Hakim Sabzevari University, Sabzevar, Towhid City, Iarn. Tel: 05144012763, Email: royasabzevar@yahoo.com [↑](#footnote-ref-1)
2. \*5th floor, Shariati hospital, north Karegar Av, Endocrinology and Metabolism Research Institute, Tel:+982188220037, fax: +982188220052, Email:ebm\_ct@yahoo.com [↑](#footnote-ref-2)
3. \* First Dead End, Amjad Alley, Baro Alley Shura Square Arak, Iran. Postal code: 3814619741, Phone(0098)8632230628, Email: s\_zahedi20@yahoo.com [↑](#footnote-ref-3)
4. \* No. 3, 15 Metri Shirazi Street, Water Organization, Hakimiyeh Ave. Tehran, Iran. Post code: 1659639884, Tel: +982177318581, Email: parisakerishchi@yahoo.com [↑](#footnote-ref-4)
5. \* ShahreKord, Rahbar Blv, University of Shahrekord, Phone and Fax: 03832324401 to 03832324407, Zip code: 8818634141, Email: ghafari.mehdi@gmail.com [↑](#footnote-ref-5)
6. \* School of Physical Education and Sport Sciences, Islamic Azad University, Arghavanei, East Jey Ave., Isfahan, Khorasgan, PO Box: 81595/158, Email: f\_taghian@yahoo.com [↑](#footnote-ref-6)