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Enhancing Uses of the Argano (Origanum Vulgare) in Improving Heart Health in Heart Disorders Rats

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Abstract

Background: Cardiovascular diseases (CVD) are the most common cause of death globally, accounting for 30% of deaths. Of these death more than three quants, are a result of coronary heart disease and a stoke. The traditional medicine of Saudi Arabia, which is based on plant treatments, has deep roots in the local community's understanding of the importance of nutrition, health, and folk healing.

Aim of Study: The objective of the trial was to Enhancing uses of the Argano (Origanum vulgare) in improving heart health in heart disorders rats.

Material and Methods: Thirty Sprague-Dawley albino rats, aged 10 weeks, with a weight of 150 pulse or minus 10g, were split into five groups: The 1st was a –ve control (normal), while the other four received adriamycin (ADM) via intraperitoneal injection (5mg/kg) twice weekly for two weeks to induce CVD. Three groups with cardiac disorders were given argano at 5%, 10% and 15% for 28 days, while group one was assumed a regular diet to act as a control positive. The experiment concluded with a blood sample and biochemical examination.

Results: The TG, TC, LDL, & VLDL levels in the blood serum of ADM-treated rats were all substantially higher, while the HDL level was significantly lower. There is some evidence that varying doses of argano can help reduce LDL or atherogenic index.

Conclusion: It could be concluded that argano has the ability to improve the condition of blood vessels and reduce the risk of CVD through the reduction of harmful lipid profile and increasing the blood antioxidant levels.

Key Words: *Argano (Origanum vulgare) – Heart disease – Heart disorders.*

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Introduction

A FRAGRANT perennial plant of the botanical family known as Lamiaceae, commonly referred to as the mint family, oregano (Origanum vulgare) Is renowned for its fragrant desiccated foliage and blooming tops, which give it a flavor similar to wild marjoram. Native to the hilly regions of western Asia as well as the Mediterranean, oregano has since become a naturalized plant in several states in the US and Mexico. This herb has a long history of usage as a seasoning and is a staple in Mediterranean cuisine. Some oregano cultivars, such the ones used in cooking, have a strong scent and a spicy, pungent flavor. Ornamental varieties aren't usually good for cooking because they have a milder flavor **[1]**. When the weather is mild, oregano is best planted as a dwarf evergreen subshrub. Covered with glandular trichomes, which are plant hairs, its small, oval leaves are arranged in an opposite manner. Initially square & hairy, the stems eventually turn woody as they mature **[2]**. The essential oil of origanum vulgare, includes a high concentration of monoterpenoid phenols, including nearly ninety percent thymol and carvacrol, which inhibit the development of biofilms and the growth of some microbes that cause food poisoning and spoilage **[3]**. The present investigation seeks to identify the primary polyphenols in Origanum vulgare ssp. a member of the Cluj county spontaneous flora, vulgare, as well as evaluate its biological potential as an antibacterial, antioxidant, & hepatoprotective agent. Having a strong understanding of native oregano is crucial for obtaining naturally occurring goods of superior quality that are rich in bioactive compounds, have a well-defined structure, and can be prescribed in effective amounts for various ailments **[4]**. The biological & chemical research of the wild Origanum vulgare ssp. vulgare in Romania. Thanks to HPLC-MS, we were able to identify six flavonoids hyperoside, rutin, isoquercitrin, & quercetin,

as well as luteolin as well as 4 phenolic acids p-coumaric, gentisic, chlorogenic, & rosmarinic acids. The antioxidant, antibacterial, & hepatoprotective biological activities stood out. O. vulgare extract demonstrated a strong antioxidant capacity, corresponding to the total polyphenolic content, consistent with antioxidant activity evaluations utilizing FRAP, CUPRAC, inhibition of cytochrome c-catalyzed lipid peroxidation & SO scavenging tests. Because it reduced blood transaminases & depending on the animal microscopic liver lesions severity, the antioxidant property of the substance might be able to partially explain the hepatoprotective effectiveness that was detected. When tested against various bacterial & fungal species, the oregano extract indicated promising antibacterial potential [5]. Origanum vulgar has the ability to create a high concentration of phenolic chemicals, leading to its strong antioxidant properties. Through analysis of A. annua, five main classes of phenolic compounds were discovered: Flavones, coumarin, phenolic acids, flavonols, & miscellaneous. These classes comprised more than fifty distinct phenolic compounds [6]. The redox capabilities of flavonoids are well-known to slow down or stop the progression of oxidizing chain reactions. Some research suggests a link between the aforementioned factors and an increased risk of cardiovascular disease, cancer, and parasitic infections like malaria [7]. Each of the numerous forms of heart disease presents with unique symptoms as well as requires a unique approach to therapy. Modifying one's way of life along with taking prescribed medications can have a profound effect on one's health for certain people. Some people may have to have surgery to fix their ticker so it works properly again [8].

Aim of study:

The objective of the study was to Enhancing uses of the Argano (Origanum vulgare) in improving heart health in heart disorders rats.

Material and Methods

Material:

The experiment was conducted in the animal house of the Faculty of Home Economics, Menoufia University, April 2024.

1- Preparation of Organo (Origanum vulgare): Organo (Origanum vulgare) was acquired at the Jeddah KSA market, washed, dried in a fifty degrees Celsius oven for three days, crushed & ground into a finest powdered form.

2- Experimental animals: Thirty Sprague Dawley Albino rat males (Having an average bodyweight 150±10g) were utilized.

Adriamycin injectable solution: An intravenous solution of adriamycin (Twenty-five milligrams per milliliter) was obtained from Mina pharm Co., Cairo, Egypt. The El-Gomhoreya Company in Cairo, Egypt provided all additional chemicals, reagents or kits.

Methods:

Biological experiment:

Rats' basic diet:

The nutritional breakdown of the basil diet was as follows: 10 percent casein, 0.25 percent % choline chloride, 1 percent vitamin combination, ten percent maize oil, five percent cellulose, 0.35 percent methionine, four percent salt mixture, & 69.5% corn starch [9].

In the test, the basal diet comprised CaCO3 (600 milligram), MgSO4.2H2O (204 milligram), CaHPO4.2H2O (150 milligram), MnSO4.4H2O (10 milligram), K2HPO4 (645 milligram), ZnCl2 (0.5 milligrams), NaCl (334 milligram), Fe (C6H5O7) 26H2O (55 milligram), CuSO4.5H2O (0.06 milligram), or Kl (1.6 milligram) [10].

There were 200 IU of vit A, 50 IU of vit K, 10 IU of vit E, 0.40 milligrams of calcium pantothenate, 0.5 milligrams of thiamine, 1 milligram of pyridoxine, 100 IU of vitamin D, 0.02 milligrams of folic acid, 4 milligrams of niacin, 0.02 milligrams of para-aminobenzoic acid, 200 milligram [11].

Induction of disorder heart:

Heart disorder groups were treated with adriamycin (ADM) for two days a week by intraperitoneal injection (five mg/kg) two times a week for a total of two wk, to induce CVD according to [12].

Experimental Design as well as Animal Groups:

30 adult male Sprague-Dawley rats classified as albinos, with an mean weight of 150±10g, were selected for the trial. The rats were at an age range of 14-16 weeks. The animals were kept in plastic cages that were free of metal components, and they were exposed to thorough cleanliness protocols. Before commencing the trial, rats were adapted to the baseline diet for 7 days. To prevent waste in addition to contamination, rats were nourished from special non-scattering feeding cups. Free water was available at all times from a bottle with a tiny opening and a metal tube securely fastened to the top of the bottle with rubber tubing. As mentioned previously, in order to acclimate the animals for the experiment, they were housed on a 12/12 schedule for a week before the trial starts. Five distinct groups were created out of the rats:

- Group one: 6 mice were nourished a baseline diet (control -ve).
- Group two: 6 heart disease rats fed a baseline diet (control +ve).
- Group three: 6 heart disease rats were administered a basic diet with 5% Organo.
- Group 4: 6 heart disease rats were administered a basic diet with 10% Organo.

• Group 6: 6 heart disease rats were administered a basic diet with 15% Organo.

Biological evaluation:

Daily feed consumption was documented, while body weight was assessed on a weekly basis for the duration of the 28-day experiment. In accordance with **[13],** we calculated the body weight gain (B.W. G.%), the food efficiency ratio (F.E.R) & the weight of various organs.

Blood sampling:

Following a period of twenty-eight days of testing, the rats were put to sleep with ether prior to being given anesthesia. By using a retro-orbital technique, serum samples were obtained using a dehydrated centrifuge tube. Centrifuging at 1,500 r.p.m., they were after twenty minutes of being left to coagulate at room temperature for 1/4 hour. After collecting serum using a sterile syringe, the samples were placed in Wisserman tubes & stored at -10 degrees Celsius until biochemical analysis could be performed. Following the procedures outlined in **[14]**, rats were dissected open, their organs removed, rinsed in a saline solution and then dried after that weighed.

Biological analysis:

Dietary consumption, BWG percent, food efficiency ratio consistent with Chapman D.G., et al. **[13].** Utilizing the following equation.

$$BWG\% = \frac{\text{Final weight} - \text{Initial weight}}{\text{Initial weight}} \times 100$$

$$FER = \frac{\text{Gain in body weight (g/day)}}{\text{Food intake (g/day)}}$$

$$\text{Relative weight of organs} = \frac{\text{Organs weight}}{\text{Animal body weight}} \times 100$$

Biochemical analysis:

Body weight gain, Food intake, FER consistent with Chapman D.G., et al. **[13].**

Glucose concentration in the blood serum estimation: Chemical kits were used to assess glucose levels in serum **[15].**

The measurement of lipids present in serum:

• Triglycerides: Triglycerides were calculated utilizing an enzyme calorimeter as described by [156].

• Total cholesterol: The primary usage of TC testing, as stated by Allain C.C., et al. **[17]**. High density lipoproteins -cholesterol: The same procedure utilized for evaluating total cholesterol may be used for determining the HDL fraction of cholesterol contained in a supernatant precipitated with phosphotungstic acid & magnesium ions.

• Very low-density lipoproteins also low-density lipoproteins - cholesterol: Very low density lipoprotins & low-density lipoproteins have been evaluated by Lee R.D., et al. **[18]** methodology.

• Total Lipids: The amount of lipids was measured by a colorimetric assay. (In accordance with Lopez M.F. **[19]**. 3.2.5.4) liver functions Determination

• Alanine transferase Determination: The technique of Tietz N.W. **[20]**, was used to calculate ALT. L-alanine is converted to pyruvate and glutamate by ALT, an enzyme that causes a reaction to occur an amino transfer from L-alanine to a-ketoglutarate.

• Aspartate transferase (AST) Determination: The measurement Aspartate transferase of was done consistent with the technique of Henry R.J. **[21].**

• Total Protein measurement: An analysis of total protein was done employing the colorimetric technique developed by Henry R.J. **[21].**

• Kidney function assessment

• Creatinine Estimation: Creatinine was estimated utilizing **[21].**

• Evaluation of urea: Urea was identified via **[22],** enzymatic technique.

Statistical analysis: One-way classification was employed for the statistical analysis. Least significant distinction (LSD) & analysis of variance (ANOVA) in accordance with Snedecor G.W., et al. **[23].**

Results

The target of the trail was to Enhancing uses of the Argano (Origanum vulgare) in improving heart diseases in heart disorders rats.

Biological effects:

The impact of various levels Argano (Origanum vulgare) On Lipids Profile & Atherogenic in Index Negative Control and Adriamycine Groups:

The effect of (Origanum vulgare) on of lipids profile of control negative & adriamycin groups are illustrated in the Table (1). Injection of rats with ADM resulted in a considerable rise in the levels of TC, total fat, LDL &VLDL in the serum, in contrary to HDL, that demonstrated a significant decrease compared with negative control (*p* less than 0.05).

The effect of (Origanum vulgare) on of atherogenic index of control negative & adriamycine groups are illustrated in Table (2). Injection rats by ADM caused a significant rise in concentrations of CRR, AC & Al compared with negative control (*p*less than 0.05).

Impact of distinct levels of Argano (Origanum vulgare) on Liver Functions kidney functions in heart disorder rats:

Table (3) presents the impact of Argano (Origanum vulgare) on the liver functions of the negative control as well as adriamycine groups. ADM injection caused a statistically significant rise of AST & ALT concentrations in the serum of rodents, as contrasted with negative control group (*p* less than 0.05).

Table (3) demonstrated the impact of Argano (Origanum vulgare) kidney functions of negative control and adriamycine groups. Injection rats by ADM caused a substantial increase in the levels of creatinine & urea in serum ($p<0.05$). Rats were fed a diet supplemented with a distinct concentration resulting in a significant reduction (*p* below 0.05) the level of creatinine & urea serum.

Effect of different levels of Argano (Origanum vulgare) On Antioxidant Activity in heart disorder rats:

The effect of on antioxidant activity of negative control & adriamycine groups are illustrated in Table (4). When ADM was administered into rodents, MDA & GPx levels Significantly higher in contrast to negative control (*p* below 0.05).

Table (1): Impact of distinct levels of Argano (Origanum vulgare) on lipids profile in heart disorder rats.

Variables	TC (mg/dl)	TG (mg/dl)	HDL (mg/dl)	LDL (mg/dl)	VLDL (mg/dl)
Negative control	$57.50^{c}\pm5.69$	$67.94^{c}\pm7.19$	$27.00^{a}\pm0.82$	$16.91^{e}\pm4.08$	$13.59^{c}\pm1.44$
Positive control	$239.00^{a}\pm6.48$	$187.50^{a}\pm$l 1.9	$23.75^{bcd}\pm1.71$	$77.75^{a}\pm8.54$	$37.50^{a}\pm2.80$
5% Argano	$105.50^{b}\pm4.20$	$118.65^{b}\pm7.09$	$23.25^{cd}\pm1.50$	$58.52^{b}\pm5.2$	$23.73^{b}\pm1.4$
10% Argano	$104.50^{b}\pm4.20$	$111.75^{b}\pm11.4$	$25.68^{abc}\pm2.2$	$56.48^{d}\pm6.0$	$22.35^{b}\pm2.2$
15% Argano	$106.75^{b}\pm3.09$	$60.25^{c}\pm4.99$	$26.25^{ab}\pm1.26$	$68.45^{bc}\pm2.7$	$12.05^{c}\pm0.9$

The values are expressed as means ± standard deviation. Means in the same columns with distinct letters indicate a significant discrepancy (*p* under 0.05). Cho refers to cholesterol, while TRG stands for triglyceride.

Table (2): Impact of distinct levels of Argano (Origanum vulgare) on cardiac risk ratio, atherogenic coefficient & atherogenic in heart disorder rats.

Variables	AC (mg/dl)	CRR (mg/dl)	Al (mg/dl)
Negative control	$2.0^{d}\pm0.18$	$1.09^{d}\pm0.18$	$0.40^{ef}\pm0.05$
Positive control	$8.99^{a}\pm0.75$	$9.99^{a}\pm0.75$	$0.90^{a}\pm0.05$
5% Argano	3.55 ± 0.36	4.55 ± 0.36	$0.71^{b}\pm0.01$
10% Argano	$3.10^{c}\pm0.46$	$4.10^{c}\pm0.46$	$0.64^{c}\pm0.06$
15% Argano	$3.07^{c}\pm0.19$	$4.07°\pm0.19$	$0.36^{f}\pm0.02$

AC: Atherogenic coefficient. CRR: Cardiac risk ratio. Al: Atherogenic index of plasma.

Table (3): The impact of distinct levels of Argano (Origanum vulgare) on Liver Functions kidney functions in heart disorder rats.

Variables	Alanine transferases (U/L)	Aspartate aminotransferases (U/L)	Creatinine (mg/dl)	Urea (mg/dl)
Negative control	$34.99^{e}\pm2.16$	$39.90^{e}\pm3.99$	$0.87^{c}\pm0.04$	$6.94^{h}\pm0.83$
Positive control	$59.99^{a}\pm6.85$	$55.89^{ab}\pm4.89$	$1.78^{a}\pm0.09$	$27.00^{a}\pm1.41$
5% Argano	$53.50^{ab}\pm1.73$	$52.00^{bcd}\pm6.06$	$1.21^{b}\pm0.13$	18.25 ± 0.96
10% Argano	$43.50^{cd}\pm7.59$	$51.00^{bcd}\pm4.55$	$0.84^{cd}\pm0.09$	$15.16^{ef}\pm1.39$
15% Argano	$41.50^{cde}\pm6.03$	$54.00^{bc}\pm3.37$	$0.92^{c}\pm0.05$	$17.00^{cde}\pm1.15$

ALT: Alanine transferases. AST: Aspartate aminotransferases.

Table (4): The impact of various levels of Argano (Origanum vulgare) On Antioxidant Activity in heart disorder rats.

Variables	MDA (nrol/mL)	GPx (mu/ml)
Negative control	15.62$^{\mathbf{d}\pm\mathbf{fc}}$1.55	5.22$^{\mathbf{f}}$±1.55
Positive control	38.90$^{\mathbf{a}}$±4.23	15.94$^{\mathbf{de}}$±1.28
5% Argano	32.55±2.26	16.98$^{\mathbf{cde}}$±1.14
10% Argano	30.89$^{\mathbf{c}}$±0.47	20.28$^{\mathbf{b}}$±1.89
15% Argano	35.15$^{\mathbf{abc}}$±3.23	18.68$^{\mathbf{bcd}}$±2.50

MAD: Malonaldiadehyde. GPx: Glutathione peroxidase.

Discussion

A fragrant perennial plant of the botanical family known as Lamiaceae, commonly referred to as the mint family, oregano (Origanum vulgare) Is renowned for its fragrant desiccated foliage and blooming tops, which give it a flavor similar to wild marjoram. Native to the hilly regions of western Asia as well as the Mediterranean, oregano has since become a naturalized plant in several states in the US and Mexico. This herb has a long history of usage as a seasoning and is a staple in Mediterranean cuisine. Some oregano cultivars, such the ones used in cooking, have a strong scent and a spicy, pungent flavor. Ornamental varieties aren't usually good for cooking because they have a milder flavor **[1]**. The identical outcomes were achieved by **[24]**. This research seeks to examine the influence of the essential oils derived from Origanum vulgare subsp. hirtum (HIR), Origanum dubium (DUB), as well as Lavandula angustifolia (LAV) on the lipid profiles and liver biomarkers of athletes. A total of 34 proficient athletes were randomized at random to one of three distinct experimental groups or to the control group, denoted as CON. The amounts of liver biomarkers also serum lipids were examined & compared both before as well as after the essential oil intervention that lasted for two weeks. The results of the gas chromatography-mass spectrometry examination revealed that DUB and hirtum essential oils had 68 percent & 82.1 percent carvacrol, respectively, whereas LAV essential oils contained 34.50 percent linalyl acetate & 33.68 percent linalool. When the corresponding preintervention values were employed as a covariate, the results of a one-way analysis of covariance (ANCOVA) displayed that there was a significant alteration (p=0.001) between the groups in terms of high-density lipoprotein cholesterol (HDL-C). Dubium (p=0.001) & HIR (p=0.024) were discovered to have higher HDL-C values than CON, according to the pairwise comparisons that were relevant to this topic. For HDL-C, the results of the two-way analysis of variance revealed that there was a significant interaction amongst time (before versus after) as well as the groups (DUB versus hirtum versus LAV versus CON) (p=0.030). The outcomes demonstrated that there was a substantial rise in DUB (p=0.0001) & HIR (p=0.010) for high-density lipoprotein cholesterol, whereas there was a significant drop in dubium (p=0.023) for low-density lipoprotein cholesterol. Both of these findings were statistically significant. There was, however, not a significant distinction in total cholesterol, triglycerides, or any of the biomarkers that are found in the liver.

In accordance with Hasan, et al. **[24].** This study examined the impacts of Origanum vulgare subsp. hirtum, Origanum dubium, & Lavandula angustifolia essential oils on athletes' lipid profiles along with liver biomarkers. At least 34 trained athletes were assigned at random to three experimental groups or the CON group. After 14 days of essential oil treatment, blood lipids & liver biomarkers were evaluated. The results of the gas chromatography-mass spectrometry examination revealed that dubium and HIR essential oils had 68.0% and 82.1 percent carvacrol, respectively, whereas LAV essential oils contained 34.50% linalyl acetate as well as 33.68 percent linalool. When the corresponding preintervention values were employed as a covariate, the results of a one-way analysis of covariance indicated that there was a statistically significant distinction (p=0.001) among the groups in terms of high-density lipoprotein cholesterol. dubium (p=0.001) & hirtum (p=0.024) were identified to have higher HDL-C values than CON, according to the pairwise comparisons that were relevant to this topic. For HDL-C, the results of the two-way analysis of variance revealed that there was a significant interaction between time (before versus after) and the groups (DUB versus HIR versus LAV versus CON) (p=0.030). The findings showed that there was a substantial rise in dubium (p=0.0001) & hirtum (p=0.010) for HDL-C, whereas there was a significant drop in DUB (p=0.023) for low-density lipoprotein cholesterol. Both of these findings were statistically significant. There was, however, not a significant variation in total cholesterol, triglycerides, or any of the biomarkers that are found in the liver **[25]**, discovered that Oregano has a wide variety of naturally occurring chemicals, including phenolic acids, essential oils, sterols, triterpenoids & flavonoids. In addition to its diuretic, antioxidant, stomachic, antispasmodic, immunomodulatory, & antimutagenic properties, oregano has a number of other medicinal potentials that have been published18. Relieving transaminase as well as globulin levels as well as hepatic antioxidant enzymes and lipid peroxidation, it exhibited an intriguing hepatoprotective action against CCl4-induced hepatotoxicity in rats. Comparable to TAA, CCl4 is a hepatotoxic agent as well as industrial material. Its reactive intermediates can cause cellular damage through either covalent bond formation with macromolecules in cells or by enhancing lipid peroxidation in addition to oxidative stress initiated by free radical intermediates. Also illustrated that the hepatoprotective of O. The existence of ten phe-

nolic acids including p-coumaric, chlorogenic, & rosmarinic acids, gentisic in addition to eleven flavonoids including isoquercitrin, hyperoside, quercitrin, rutin, quercetin, as well as luteolin probably causes the vulgare ethanolic extract's antioxidant effect. These outcomes are in similar with Hany, et al. **[26].** A experiment was directed to estimate the properties of oregano essential oil (OEO) on common carp (Cyprinus carpio L.) fingerlings' development as well as feed consumption indices, hepato-renal functions, proximate composition & histomorphological criteria of the kidneys, liver & intestines. For a duration of two months, fish weighing 20.3±0.8g were random selection from five groupings & given varying amounts of oregano essential oil (zero, five, ten, fifteen, & twenty g/kg diet). According to the results, the feed conversion ratio was unaffected compared to the control group, but the growth parameters (weight gain, final body weight, weight gain (percent), feed intake, & specific growth rate) were noticeably enhanced by the dietary OEO in a dose-dependent manner (p<0.05). No significant variation in the survival rates or body proximate composition. Supplementation with OEO did not significant alteration the liver function enzyme activities (alanine transaminase, alkaline phosphatase, & aspartate transaminase), blood protein profile (albumin, total protein & globulin), or renal indicators (creatinine and urea) (p under .05). Serum hepato-renal functioning have been linked with the histomorphology of hepatopancreatic and renal tissues of common carp given various amounts of OEO, in the absence of any pathologic diseases. The identical outcomes were achieved by Bendini, et al. **[27]**, they discovered that dried oregano leaf extracts, which had the highest antioxidant activity, had the same antioxidant capacity as BHT supplied at 0.04% w/w (26.50 h of OSI time) when administered to a model lipid system at a proportion of 0.20 percent w/w (26.40 hours of OSI time). Italian Journal of Food Science, n. 1, vol. 14, 2002, 23 determined that ethanolic oregano extracts that had been hydrolyzed had greater antioxidant effects than non-hydrolyzed ones. A 0.20 percent hydrolyzed extract (42.30 hours OSI time) had 1.6 times the antioxidant potential of the untreated extract. TLC examination showed polyphenolic complexes in both untreated & hydrolyzed extracts and the absence of phenolic glycosides (low Rf spots) in the hydrolyzed ones. Structure activity connection studies for oregano volatile aglicone, examined by measuring peroxide values of lard deposited at 60°C, suggest that free phenolic aglycones have stronger antioxidant power. The use of phenolic hydrolyzed oregano extracts as natural antioxidants in food in addition to cosmetics warrants additional research.

Conclusion:

It could be concluded that argano has the ability to improve the condition of blood vessels and reduce the risk of CVD through the reduction of harmful lipid profile and increasing the blood antioxidant levels.

Recommendations:

1- It is recommended to utilize Argano (Origanum vulgare) for heart cases.
2- Various concentrations of Argano (Origanum vulgare) can help in proving heart health.

Approval Ethics:

The Science Research Ethics Committee of the Faculty of Home Economics accepted the research protocol #11-SREC-06-2024.

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تعزيز االاستخدامات العلاجية لنبات الأرجانو (Origanum Vulgare) فى تحسين صحة القلب لدى الفئران المصابة باضطرابات قلبية

تعتبر أمراض القلب والأوعية الدموية هى السبب الأكثر شيوعًا للوفاة على مستوى العالم، حيث تمثل ٣٠٪ من الوفيات. من بين هذه الوفيات، أكثر من ثلاثة أضعاف، نتيجة لأمراض القلب التاجية والسكتة الدماغية، واصبح لطب التقليدى فى المملكة العربية السعودية يعتمد على العلاجات النباتية، تهدف الدراسة الى تعزيز استخدامات الارجانو (Origanum vulgare) فى تحسين صحة القلب لدى الفئران التى تعانى من اضطرابات قلبية. تم استخدام ثلاثون فأر ذكور من سلالة ألبينو، و تم تقسيم الفئران الى خمس مجاميع تتألف كل مجموعة من ستة فئران، وتم تغذية جميع الفئران بنظام غذائي أساسى لمدة أسبوع واحد قبل التجربة وتتكون المجموعة الأولى من ست فئران طبيعية تم تغذيتها على الوجبة الأساسية وتسمى المجموعة الضابطة السالبة بينما المجموعة الثانية والتى تتكون من ست فئران تم حقنها بالادراميسين وتتغذى على الوجبة الأساسية دون علاج وتعتبر المجموعة الضابطة الموجبة والمجموعة الثالثة التى تتكون من ست فئران تم حقنها بالادراميسين وتغذت على الوجبة الأساسية +٥٪ من نبات الارجانو والمجموعة الرابعة و تتكون من ست فئران تم حقنها بالادراميسين و تغذت على الوجبة الأساسية +١٠٪ من ثمار نبات الارجانو والمجموعة الخامسة تتكون من ست فئران تم حقنها بالادراميسين وتغذت على الوجبة الأساسية +١٥٪ من نبات الارجانو و استمرت التجربة ٢٨ يوم وبعدها تم ذبح الفئران و اخذ عينات الدم لعمل التحاليل البيوكيميائية . اظهرت النتائج فروق معنوية في مستويات الدهون الثلاثية والكوليسترول الكلى والكوليسترول الضار لدى الفئران المحقونة بالادراميسين والتى تم علاجها بنبات الارجانو، يمكن الاستنتاج أن الأرجانو لديه القدرة على تحسين حالة الأوعية الدموية وتقليل خطر الإصابة بأمراض القلب والأوعية الدموية من خلال تقليل مستوى الدهون الضارة وزيادة مستويات مضادات الأكسدة فى الدم.