

Results. CD was found in 35 participants, 29 of whom were unaware of their diagnosis. Median age was 45 years (interquartile range 23-66 years), 20 were women, and 29 were non-Hispanic white. Clinical presentation CD is diagnosed more frequently in women with a female-to-male ratio ranging from 2:1 to 3:1. However, based on serological screening, the actual female-to-male ratio is 1.5:1. The prevalence of CD in the United States was 0.71% (95% confidence interval (CI), 0.58-0.86%), with 1.01% (95% CI, 0.78-1.31%) among non-Hispanic whites. In all participants reported following a GFD, which corresponded to a prevalence of 0.63% (95% CI, 0.36-1.07%).

Conclusions. The number of people diagnosed with gluten intolerance is increasing. Most cases were undiagnosed. CD was rare among minority groups. Thus, there is a need for more effective and novel approaches to treat gluten-related disorders. Therefore, by understanding principal properties of gluten open some possibilities for therapeutic approaches.

Key words: gluten, celiac disease (CD).

292. ANTIOXIDANT ACTIVITY OF *TARAXACUM OFFICINALE*

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Introduction. *Taraxacum officinale*, considered a weed in many crops around the world, is regarded as a fully nontoxic and entirely edible plant. The chemical composition of plant (flowers, leaves, roots and latex) has been studied extensively due to its biological actions: antioxidant, anti-inflammatory, anti-carcinogenic, anti-hyperglycaemic, anti-thrombotic, antimicrobial and antiviral.

Aim of the study. To establish the optimal conditions for the extraction of the bioactive compounds from the *Taraxacum officinale* leaves and their characterization (study of the physical-chemical and biological properties).

Materials and methods. The process of extraction from the investigated vegetal material has been realized by using the maceration during 24 hours. The extraction has been realized at a room temperature in three consecutive steps for each method using as a solvents: 80%, 50%, and 20% of ethanol. The antioxidant properties of the obtained extracts was investigated by the ABTS (2,2-azinobis-(3-ethylbenzothiazoline)-6-sulfonic acid) method described by Re et al., with some modifications. The results were expressed as percent inhibition of the ABTS radical. Trolox (6-hydroxy-2,5,7,8-tetramethylchroman-2-carboxylic acid) and Rutin (Quercetin-3-rutinoside hydrate; Sigma-Aldrich) was used as antioxidant standard.

Results. The highest antioxidant properties in the leaves of *Taraxacum officinale* showed the extraction with 80% EtOH, at concentrations of 1.25, 0.63 and 0.31 µg/ml, the inhibition percentage in the ABTS test was: 93%, 77% and 48%, respectively. The lower inhibition activity was observed with 50% EtOH extract at concentrations of 4.69, 2.34 and 1.17 µg/ml, the inhibition rate was 95%, 94% and 94%. A similar ABTS radical inhibition activity also showed the 20% EtOH extracts, which at concentrations of 4.38, 2.19 and 1.1 µg/ml, showed an inhibition rate of 95%, 94% and, respectively, 81%. The biologically active compounds extracted from the leaves of *Taraxacum officinale* more effectively capture the ABTS radical compared to the reference substances - Trolox and Rutin. Thus, Trolox and Rutin at

concentrations of 187.5, 93.75 and 46.9 µg/ml, showed an inhibition rate in the ABTS test equal to 40%, 20%, 13% and, respectively, 40%, 24% and 17%. The biologically active compounds present in the leaves of *Taraxacum officinale* can act as free radical capture agents, thus participating in the prevention of DNA adduct formation and in the prevention of mutagenesis and carcinogenesis and may also exert chemopreventive effects.

Conclusions. In this research, we developed an environmentally sustainable procedure for determining the antioxidant properties of *Taraxacum officinale* leaf extracts. We applied this procedure to select the most efficient method for extracting bioactive molecules with the highest antioxidant activity in the ABTS free radical capture assay. This method is fast, non-toxic, low cost and environmentally sustainable and due to its efficiency, it can be used in various biomedical applications.

Key words: ABTS free radical capture assay, *Taraxacum officinale*, extraction of biologically active compounds.

293. INFLUENCE OF COORDINATING COMPOUNDS OF COPPER, DERIVATIVES OF THIOSEMICARBAZIDE, ON NITRIC OXIDE HOMEOSTASIS IN HEPATIC TISSUE

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Introduction. The researches carried out in the last decades have brought more and more evidence that nitric oxide (NO) and its derivatives play an important role in various physiological and pathological processes, including liver diseases. The therapeutic efficacy of the thiosemicarbazide derivatives is known, but the data regarding their influence on the main nitric oxide metabolites – nitrite (NO₂) and nitrate (NO₃) in the liver tissue are missing.

Aim of the study. Based on the above, the purpose of the study is to investigate the influence of new copper coordinating compounds (CCCs), thiosemicarbazide derivatives on the level of nitric oxide metabolites *in vivo* in laboratory animal studies.

Materials and methods. The Research Ethics Committee of the *Nicolae Testemitanu* SUMP (favourable opinion no. 73 of 26.04.2017) approved the research. The action of the thiosemicarbazide derivatives – CMJ-33 and CMT-67 was evaluated in experiments on 40 male white Wistar rats randomly divided into the following groups: I control – intact animals; II and III – animals, which were administered CMJ-33 and CMT-67, respectively, at a dose of 1.0 mg/kg body weight for 30 days. The determination of NO metabolites was performed according to the methods described previously.

Results. The study shows that the tested CCCs induced statistical changes in the content of NO metabolites in the liver tissue. Thus, CMJ-33 and CMT-67 statistically significantly increase the summary content of NO₂ + NO₃ by 32% and 20% compared to the values attested in the control group. The concentration of NO₂ after administration of CMJ-33 and CMT-67 increases by 43% and, respectively, by 23% compared to the control values. The NO₂/NO₃ ratio relevantly increases after CMJ-33 administration by 47%, while CMT-67 causes a discrete increase of this ratio by 12% in the liver.