

STUDY OF OSTEOPOROSIS IN PORTUGUESE WOMEN AGED MORE THAN 50 YEARS: ANALYSIS OF RISK FACTORS AND ADHERENCE TO THERAPEUTIC

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Introduction: Osteoporosis is a disease characterized by low bone mass, increased bone fragility and risk of fracture. In Portugal, about five hundred thousand people suffer from osteoporosis, most of them women. The criteria for initiating pharmacological treatment is based on the bone mineral density test and the assessment of risk factors. Due to the asymptomatic condition of the pathology, patients don't adhere correctly to the pharmacological treatment thus being in a higher risk of fracture and comorbidities.

Objectives: The aim of this study was to identify variables associated with osteoporosis and to evaluate the adherence to the osteoporosis treatment.

Methods: In this study, the bone mineral density test was performed on 107 women aged over 50 years, by quantitative ultrasound of the calcaneus. Several other data, such as age and indicators of lifestyle habits, were collected by questionnaire, in order to study potential associations. The therapy compliance was also analyzed.

Results: The bone mineral density test demonstrated that 43.9% of the participants had normal bone density, 37.4% had osteopenia and 18.7% had osteoporosis. Increased age ($p = 0.000$) and menopause ($p = 0.013$) were correlated with T-score. The diagnosis of osteoporosis and the family history of osteoporosis were statistically correlated ($p = 0.020$). Body mass index ($p = 0.380$), current smoking (0.456), consumption of milk and dairy products ($p = 0.201$) and consumption of food rich in vitamin D ($p = 0.274$), were not statistically correlated with T-score. Patients taking bisphosphonates, with older age and with treatments longer than 6 months presented poor adherence to medication.

Conclusions: Age, menopause and family history of osteoporosis were risk factors for the disease.

Keywords: Osteoporosis. Risk factors. Treatment. Compliance.

ANTIOXIDANT AND CYTOTOXIC ACTIVITY OF DANDELION (TARAXACUM OFFICINALE) ETHANOLIC EXTRACT

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Introduction: Dandelion (*Taraxacum officinale*) is a plant known for its medicinal properties, such as antioxidant and anticancer ac-

tivity. Increasing interest and research on medicinal plants have revealed its potential for treating different diseases, including cancer.

Objectives: This study aims to evaluate the antioxidant capacity and cytotoxic properties of *T. officinale* ethanolic extract against human hepatocarcinoma (HepG2).

Methods: Antioxidant activity of the extract was determined by the superoxide scavenging assay and Fe²⁺ chelating activity. Cells were treated with plant extracts for 24 and 48 hours and cell viability determined by 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyl tetrazolium bromide (MTT) assay, and the concentration of extract that inhibited 50% cell growth of the cells was calculated.

Results: For antioxidant capacity of the crude extract, IC₅₀ values were IC₅₀ = 53.9 ± 10.33 µg/ml (Fe²⁺ chelating activity) and IC₅₀ = 2.0 ± 0.3 µg/ml (superoxide scavenging assay). Cytotoxic activity in HepG2 cells after 24h and 48h of incubation showed a cell viability greater than 70% in all studied concentrations.

Conclusions: Results suggest that *T. officinale* has antioxidant and cytoprotective activities, which seems to be related with the phenolic components of the extract. However, further studies are needed to elucidate the main compounds responsible for these potential cytoprotective and antioxidant effects.

Keywords: Antioxidant activity. Cytotoxicity. Dandelion.

CANNABIS SATIVA L. AND INFLAMMATORY BOWEL DISEASE

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Introduction: Inflammatory bowel disease (IBD) involves Crohn's disease and Ulcerative Colitis. Due to the increase of newly diagnosed cases and side effects related to conventional drugs, the search for alternative therapies are crucial. Cannabis sativa L. has been used since ancient times for the treatment of intestinal disorders. Recently, studies have been conducted with Cannabis sativa L. for the treatment of IBD.

Objectives: This review aims to identify the anti-inflammatory and immunomodulatory activity of Cannabis sativa L. in IBD, in order to develop alternative therapies for this condition.

Methods: The search was carried out using PubMed and Elsevier updated to December 2015. The search terms were 'IBD', 'inflammatory bowel disease', 'cannabis', 'marijuana', 'crohn' and 'ulcerative colitis'. The references were chosen according to its relevance to the theme. Human studies with natural compounds from the extract of Cannabis were included.

Results: The plant shows high capacity in reducing the symptoms of IBD and improving the quality of life. Cannabis sativa L. was able to induce remission in many patients. The endocannabinoid compounds such as cannabidiol, cannabinol and Δ⁹-tetrahydrocannabinol (agonists of the receptors CB1 and CB2) decreases inflammation by altering the recruitment of pro-inflammatory cytokines. The activity of the plant in the central nervous system also decreases symptoms associated with pathology, such as lack of appetite, nausea and abdominal pain.

Conclusions: Cannabis sativa L. seems to be a promising plant with strong evidences in improving symptoms associated with the disease. It is expected that, in the future, this plant might be widely used in patients with IBD.

Keywords: Inflammatory bowel disease. Cannabis sativa L.