



TITLE: Comparison of the Effect of *Avocado/Soybean* Extract and Crocin on Pain Intensity and Radiographic Changes in Patients with Knee Osteoarthritis

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ABSTRACT (up to 300 words)

Introduction: Osteoarthritis is a common joint disease, affecting many people worldwide, especially people over 65 years old. As effective medical treatment is lacking and the increased side effects of available drugs for osteoarthritis treatment, this study aimed to compare the outcome of Avocado soy and Crocin extracts on pain intensity and radiographic changes in osteoarthritis patients.

Materials and Methods: This clinical trial was performed on osteoarthritis patients aged 40–75 years with joint injury of grade 2–3 confirmed by radiographic images. Patients were randomly divided into two groups of 30 patients. One group was given avocado/soybean extract (Avocado soy) with vitamin D (Vit D; 50,000-IU/week) and 500mg calcium (Ca) daily. Another group received Crocin with Vit D (50,000-IU/week) and 500mg Ca daily. After four months of drug use, the final questionnaire was filled in both groups. The data were analyzed in SPSS 22 software after collecting information.

Results: No significant difference was found in the mean pain intensity before and after the intervention in the Avocado soy group ($P = 0.06$), but a significant decrease was found in the pain intensity of patients in the Crocin group ($P = 0.001$). Furthermore, no significant difference was found in the mean severity of osteoarthritis symptoms before and after intervention in the Avocado soy

group ($P = 0.051$), but a significant decrease in the severity of osteoarthritis symptoms and knee discomfort was found in the crocin group ($P = 0.001$). Our findings revealed a decrease in difficulties with activities of daily life, recreation, and exercise in both groups, but no radiological changes were observed.

Conclusion: The present study demonstrated that treatment with Crocin has a better effect in decreasing the severity of pain, symptoms of osteoarthritis, and knee discomfort when compared with Avocado soy, resulting in improvement of quality of life. Thus, its use could be recommended for patients suffering from osteoarthritis.

BIOGRAPHY (up to 200 words)

Elham Atabati has completed Internal Medicine specialist in 34 age and after 6 years of work as an internal medicine specialist and faculty member. She passed the Rheumatology course and is currently working as a professor and researcher in Birjand University of Medical sciences. she has over 24 publications that have been cited over 85 times (SCOPUS:22 Scular:63), and her publication h-index is 4. She has been serving as an editorial board member of several reputed journals and research center.



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