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INVESTIGATION OF PUMPKIN SEED USE IN THE TREATMENT OF BENIGN PROSTATIC HYPERPLASIA

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ABSTRACT

Investigation of Pumpkin Seed Use in The Treatment of Benign Prostatic Hyperplasia Benign prostatic hyperplasia (BPH) is the main cause of lower urinary tract symptoms (LUTS) in older men. Prevalence of BPH is about 50% in men 51-60 years of age and the ratio increases up to 90% among men in 81-90 years of age. BPH symptoms have negative influences on life quality and restrict daily activities. The recommended medication for BPH treatment is alpha adrenergic receptor blockers which reduces the prostate and bladder neck smooth muscle tone, and 5-alpha reductase inhibitors which reduce prostate volume via epithelial atrophy. Although medicines used for BPH treatment have positive effects on life quality, the adverse effects (including sexual problems) lead patients to herbal medicines with less adverse effects and low cost. In Italy, 50% of the prescribed medications used in BPH is herbal originated. According to a research in USA while 66% of the patients with LUTS related to BPH were using only prescription drugs, 14% of the patients were receiving only phytotherapy and 20% of the patients were using both prescription drug and phytotherapy. In Europe, particularly in Germany, Austria, Italy and France, phytotherapy is often the first-line therapy for the treatment of BPH symptoms. The German commission E monograph reports that pumpkin seed oil is traditionally being used for prostate growth treatment in Europe. Besides pharmacotherapy and surgical treatment, phytotherapeutics are also involved in Canadian, American and European Urology Association guidelines for BPH treatment. According to these guidelines *Serenoa repens*, *Pygeum africanum*, *Urtica dioica* and *Cucurbita pepo* (pumpkin seed) plants can be used for this purpose. In this study, we aimed to evaluate the effect of pumpkin seeds on BPH and LUTS in consideration of current researches. In Europe, pumpkin seeds and pumpkin seed oil have been used for many years in overactive bladder-related micturition disorders and enlargement of prostate gland. The pumpkin seed contains about 50% fatty oil (linoleic acid oleic acid and tocopherol), but it is assumed that active substances of pumpkin seed are Δ^7 -sterols (avenasterol, spinasterol) and Δ^5 -sterols (sitosterol, stigmasterol). In 2014 according to GRANU (The German Research Activities on Natural Urologicals) research, the activities of pumpkin seed, pumpkin seed extract and placebo were evaluated for 12 months in a double-blind, randomized study in 1431 patients with BPH/LUTS. A clinically significant improvement in international prostate symptom score (IPSS) related quality of life (QoL) was observed on pumpkin seed group compared to the placebo group. This study supports the use of pumpkin seed in BPH/LUTS patients. A prospective randomized clinical trial in Iran, published in 2014, compared the efficacy of pumpkin seed oil and prazosin (alpha adrenergic receptor blocker) on 100 patients with symptomatic BPH. In this study, it was stated that pumpkin seed oil reduced IPSS score and increased QoL, but it was emphasized that prazosin was more effective than

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