

## THE ROLE AND THERAPEUTIC EFFECTS OF MINERAL WATERS IN THE TREATMENT OF GONARTHROSIS – A SYSTEMATIC REVIEW

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### Abstract

**Introduction:** Gonarthrosis is a degenerative disease that affects the entire joint, causing progressive cartilage deterioration, subchondral bone changes and synovial membrane inflammation. Clinically, it is characterized by pain and joint stiffness associated with progressive functional limitation and decreased quality of life. The International Osteoarthritis Research Society has developed stratified guidelines for the non-surgical treatment of gonarthrosis, in which non-pharmacological measures include weight control by dietary changes, physical activities, cognitive behavioral psychotherapy, orthoses and walking aids, physical therapy and balneo-therapy or immersion in thermal or mineral water. Immersion in mineral or thermal water has sedative, decongestant, myorelaxant, analgesic and vasodilator effects. The aim of this study was to conduct a systematic analysis of the literature regarding the role and specific therapeutic effects of mineral elements and other chemical compounds in mineral water, as well as its derivatives, peloids.

**Material and method:** PubMed and Medline databases were searched for studies in the period 2011-2018, using the following key words: “spa therapy”, “balneo-therapy”, “gonarthrosis”, “mud”, “peloid”, “mud treatment” combined with “randomized clinical trials”, “meta-analyses”. We selected 11 studies including a total number of 845 patients treated with mineral water baths or mud/peloids.

**Results:** Treatment with mineral waters or mud packs has beneficial effects in patients with gonarthrosis, reducing pain symptoms and significantly improving functional capacity and quality of life over a period of up to 3 months.

**Conclusions:** The studies show that mineral water and mud/peloid therapy is a possible therapeutic option in the treatment of gonarthrosis.