



## Glucosamine in the Egg Shells and Goat Fats as Therapy for Osteoarthritis Rat Model

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**Abstract:** NSAIDs (Non-Steroid Anti-Inflammatory) as systemic therapy of pain in osteoarthritis (OA) have side effects such as gastrointestinal and cardiovascular risks that cause limiting the long-term use. Therefore, it is necessary to look for alternative therapy that are safer to use. One of the alternative therapy by utilization of eggshells and goat fats. Eggshells contains glucosamine and goat fats contains omega-3 which both has role on wound healing of OA. The aim of this study was to determine the effect of the combination of glucosamine in the eggshell and omega-3 in the goat fats toward OA rats that induced by papain. This study using 30 male wistar rats that were divided into 5 groups: negative control (healthy), positive control (OA) and 3 treatments where dosage of glucosamine is same (135 mg / kg bw) while dosage of omega-3 is multilevel (9, 18 and 27 mg / kg bw). The data result are presented quantitatively. Analysis based on the pain response, knee swelling diameter and alteration in behavior. The results showed that the combination of glucosamine with omega-3 from can reduce pain response and swelling diameter also return the behavior of OA rats close to normal again in P3 treatment.

**Keywords :** Osteoarthritis, omega-3, glucosamine, goat fat, eggshell.