

ABSTRACT

Background: Osteoarthritis (OA) is the most common form of arthritis, especially in Indonesia. Yellow pinang seeds (*Areca Catechu L*) which contain flavonoids can provide anti-inflammatory effects such as NSAIDs and have the potential as an alternative treatment for OA.

Objective: To prove the potential anti-inflammatory effect of ethyl acetate fraction from yellow pinang seeds (*Areca catechu L*) as a treatment method on rat knee joints in terms of joint swelling diameter and histopathological appearance in knee joint of white rat (*Rattus novergicus*) osteoarthritis model.

Methodology: The research was conducted in January – March 2022 at the Biomedical Laboratory of the Faculty of Medicine by dividing 5 groups, namely the negative control group, positive control group, the dose of ethyl acetate fraction of yellow areca seeds 15mg/kgBB; 30mg/kgBB; 60 mg/kg body weight. OA induction model with Monosodium Iodoacetate (MIA). The rat's knee was measured the average joint diameter and the degree of inflammation on histopathological examination.

Results: The average knee joint diameter of white rats decreased and there was a significant difference in the histopathological examination of the knee joint of rats between groups.

Conclusion: The ethyl acetate fraction of yellow areca seeds group at a dose of 30mg/kgBW was more effective than the negative control group and other yellow areca seeds groups. The positive control group was more effective than the yellow areca seeds group at a dose of 30mg/kgBB

Keywords: Osteoarthritis, Yellow Areca, Histopathology.

ABSTRAK

Latar Belakang: Osteoarthritis (OA) adalah bentuk arthritis yang paling sering ditemukan terutama di Indonesia. Biji pinang kuning (*Areca Catechu L*) yang mengandung flavonoid dapat memberikan efek anti inflamasi seperti NSAID berpotensi sebagai alternatif pengobatan OA

Tujuan: Membuktikan potensi efek anti inflamasi fraksi etil asetat biji pinang kuning (*Areca catechu L*) sebagai metode pengobatan pada sendi lutut tikus ditinjau dari diameter pembengkakan sendi dan gambaran histopatologis pada sendi lutut tikus putih (*Rattus novergicus*) model osteoarthritis

Metodologi: Penelitian *True Experimental* yang dilaksanakan pada bulan Januari – Maret 2022 di Laboratorium Biomedik Fakultas Kedokteran dengan membagi 5 kelompok yaitu kelompok kontrol negatif, kontrol positif, dosis fraksi etil asetat 15mg/kgBB; 30mg/kgBB; 60mg/kgBB. Lutut tikus putih jantan yang berumur 4 bulan diukur rata-rata diameter sendi selama 14 hari setelah diinduksi OA selama 7 hari hingga terdapat edema dengan zat *Monosodium Iodoacetate* (MIA) dan derajat inflamasi pada lapisan sinovial.

Hasil: Mendapatkan hasil rata-rata diameter sendi lutut tikus putih selama 14 hari menurun dan terdapat perbedaan bermakna pada lapisan sinovial sendi lutut tikus antar kelompok perlakuan dan kelompok kontrol dengan adanya derajat inflamasi ringan hingga sedang.

Kesimpulan: Kelompok fraksi etil asetat dosis 30mg/kgBB lebih efektif dari kelompok kontrol negatif dan kelompok pinang lainnya. Kelompok kontrol positif lebih efektif dari kelompok pinang dosis 30mg/kgBB

Kata Kunci: Osteoarthritis, Pinang Kuning, Histopatologi.