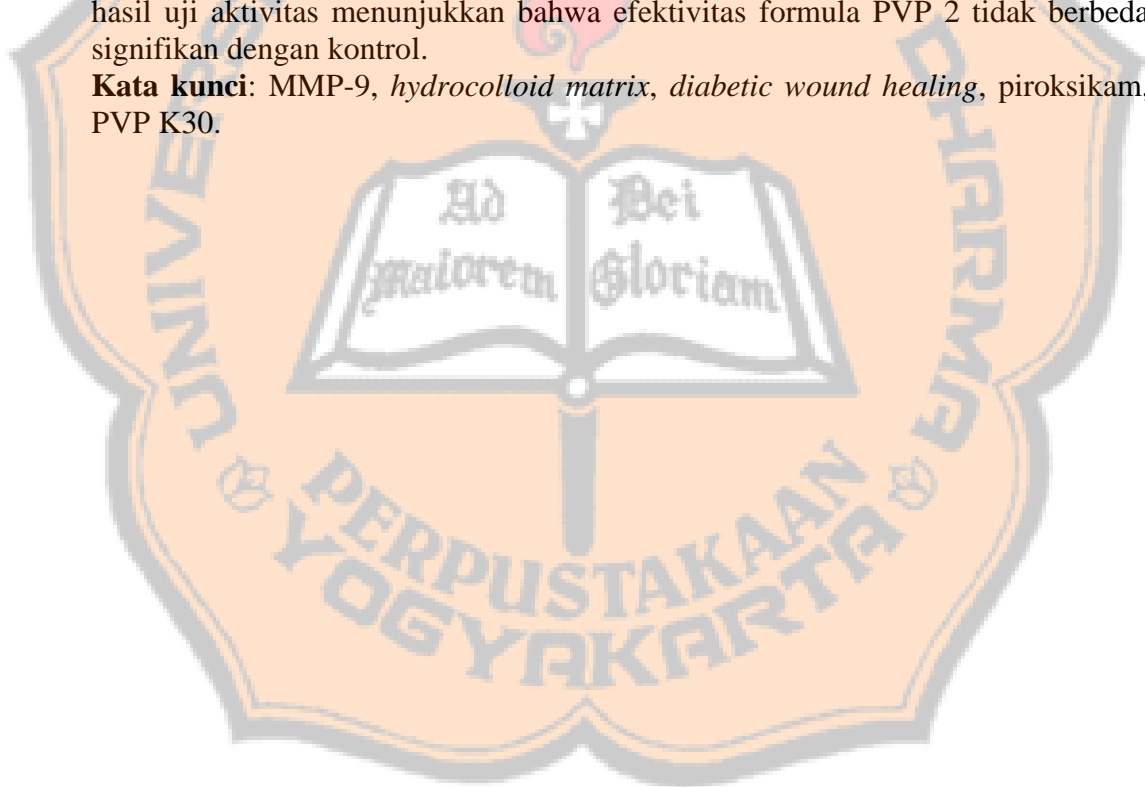


ABSTRAK

Hydrocolloid matrix piroksikam dapat menjadi salah satu alternatif pengobatan ulkus kaki diabetik yang dapat menghantarkan obat secara terkontrol, di mana bergantung pada polimer. Penelitian ini bertujuan mengetahui konsentrasi PVP K-30 yang optimal dengan rentang konsentrasi 1,5% - 2,5% sebagai polimer pada formula sediaan *hydrocolloid matrix diabetic wound healing* dengan zat aktif piroksikam. Organoleptis, bobot, ketebalan, *moisture content*, *moisture absorption*, pH, ketahanan pelipatan, kandungan obat dan pelepasan obat piroksikam dari matriks selama 6 jam dievaluasi secara statistik menggunakan *software R* dengan taraf kepercayaan 95%. Formula optimal diaplikasikan pada luka eksisi tikus jantan terinduksi aloksan dan tidak terinduksi, setiap 24 jam. Hasil penelitian menunjukkan formula PVP 2 dengan konsentrasi PVP K-30 sebesar 2%, dengan kombinasi HPMC konsentrasi 4,5% merupakan formula optimal, di mana memiliki warna merata, homogen, dengan *moisture content* 5,166%, *moisture absorption* 8,980%, memiliki DE_{360} sebesar 53,87%, serta stabil pada suhu 37°C dan 45°C, dan hasil uji aktivitas menunjukkan bahwa efektivitas formula PVP 2 tidak berbeda signifikan dengan kontrol.

Kata kunci: MMP-9, *hydrocolloid matrix*, *diabetic wound healing*, piroksikam, PVP K30.



ABSTRACT

Hydrocolloid matrix piroxicam might become an alternative treatment of diabetic foot ulcers that could control the delivery of the drugs, which depends on the polymer. The aim of this study is to determine the concentration of PVP K-30 with range of 1.5% - 2.5% as a polymer in the formula hydrocolloid matrix dosage diabetic wound healing with piroxicam as an active ingredient. Organoleptic, weight, thickness, moisture content, moisture absorption, pH, folding endurance, drug content and drug release of piroxicam for 6 hours were evaluated statistically using the software R with a level of 95%. Optimal formula then was applied to the wound excision of male rats induced by alloxan and not induced, every 24 hours. The results showed the formula PVP 2, which concentration of PVP K-30 amounted to 2%, and a combination of HPMC concentration of 4.5% became a formula optimal, which has a color uniform, homogeneous matrix, with a moisture content 5,166%, moisture absorption 8.980%, DE₃₆₀ amounted to 53.87% and the stability is suitable at temperatures of 37°C and 45°C, and activity test results showed that the effectiveness of PVP formula 2 did not differ significantly compared with the control.

Key word: MMP-9, hydrocolloid matrix, diabetic wound healing, piroxicam, PVP K30.

