ANALISIS BAHAN KIMIA OBAT PREDNISON DALAM JAMU PEGAL LINU YANG BEREDAR DI KOTA BATAM

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ABSTRAK

Jamu pegal linu merupakan obat tradisional yang banyak digunakan masyarakat untuk meredakan nyeri otot, pegal, dan linu. Penggunaan jamu dapat berisiko apabila ditambahkan bahan kimia obat (BKO), salah satunya prednison yang penggunaannya secara ilegal dapat menimbulkan efek samping. Tujuan penelitian yaitu mengetahui keberadaan dan kadar prednison pada jamu pegal linu yang beredar di Kota Batam. Metode penelitian yaitu menggunakan *purposive sampling* terhadap 15 sampel jamu pegal linu dengan analisis uji warna menggunakan asam sulfat pekat, Kromatografi Lapis Tipis (KLT), dan spektrofotometri UV-Vis pada panjang gelombang maksimum 238 nm. Hasil penelitian yaitu seluruh sampel tidak mengalami perubahan warna menjadi jingga setelah penambahan asam sulfat pekat dan tidak berubah menjadi hijau kebiruan setelah penambahan air. Pada KLT, baku prednison memiliki nilai Rf rata- rata sebesar 0,60 (SD ± 0,02), sedangkan seluruh sampel tidak menunjukkan bercak yang sama. Hasil spektrofotometri UV-Vis menunjukkan seluruh sampel negatif mengandung prednison. Validasi metode menghasilkan R^2 sebesar 0,9982, %RSD 2,00%, *Recovery* 100,36%, LoD 0,52 µg/mL, dan LoQ 1,57 µg/mL. Kesimpulan penelitian yaitu senyawa prednison tidak terdapat pada seluruh sampel sehingga tidak ditemukan penambahan BKO prednison, dan kadar prednison tidak dapat ditentukan karena seluruh sampel memberikan hasil negatif terhadap keberadaan prednison.

Kata kunci : Prednison, jamu pegal linu, bahan kimia obat, kromatografi lapis tipis, spektrofotometri UV-Vis.

ANALYSIS OF PREDNISONE IN HERBAL MEDICINE FOR ACHES AND PAINS CIRCULATING IN BATAM CITY

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ABSTRACT

Jamu pegal linu is a traditional medicine widely used by the community to relieve muscle pain, aches, and soreness. The use of herbal medicine may pose a risk if it is adulterated with medicinal chemicals, one of which is prednisone, whose illegal use may cause adverse effects. The aim of this study was to determine the presence and concentration of prednisone in herbal medicine for muscle aches circulating in Batam City. The research method used purposive sampling involving 15 samples of herbal medicine for muscle aches. The analysis was conducted using a color test with concentrated sulfuric acid, Thin-Layer Chromatography (TLC), and UV-Vis spectrophotometry at a maximum wavelength of 238 nm. The results showed that none of the samples underwent a color change to orange after the addition of concentrated sulfuric acid and did not change to bluish-green after the addition of water. In the TLC analysis, the prednisone standard had an average Rf value of 0.60 (SD ± 0.02), while none of the samples showed spots corresponding to the prednisone standard. The UV-Vis spectrophotometric analysis showed that all samples tested negative for prednisone. Method validation resulted in an R^2 of 0.9982, %RSD of 2.00%, recovery of 100.36%, LoD of 0.52 µg/mL, and LoQ of 1.57 µg/mL. The conclusion of this study is that prednisone was not detected in any of the samples; therefore, no adulteration with prednisone as a medicinal chemical was found. The concentration of prednisone could not be determined because all samples tested negative for the presence of prednisone.

Keywords : Prednisone, herbal medicine for muscle aches, pharmaceutical adulterants, thin layer chromatography, UV-Visible spectrophotometry.