INTISARI

FARRA ALIEFIA SANTOSO, 2021, PENGARUH PENYIMPANAN TERHADAP KADAR IBUPROFEN DALAM SEDIAAN SUSPENSI SECARA SPEKTROFOTOMETRI UV-VIS. KARYA TULIS ILMIAH, PROGRAM STUDI D-III ANALIS FARMASI DAN MAKANAN, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI. Dibimbing oleh apt. Reslely Harjanti, S.Farm., M.Sc.

Ibuprofen merupakan obat golongan antiinflamasi nonsteroid (AINS). Salah satu penggunaan suspensi oral ibuprofen adalah sebagai obat penurun demam. Penggunaannya yang hanya untuk meringankan gejala menyebabkan suspensi ibuprofen seringkali disimpan sebagai stok untuk digunakan kembali jika membutuhkan. Penelitian ini bertujuan untuk mengetahui pengaruh tempat penyimpanan obat terhadap kadar ibuprofen dalam sediaan suspensi oral.

Metode analisis yang digunakan untuk penetapan kadar ibuprofen dalam sampel suspensi oral ini adalah spektrofotometri UV-Vis. Sampel dikondisikan terhadap 2 tempat penyimpanan yaitu penyimpanan ruang (25-30ºC) dan penyimpanan kulkas (2-8ºC), kemudian dianalisis kadarnya pada hari ke-0, ke-7 dan ke-14. Sampel dipreparasi dengan pelarut NaOH 0,1 N dan diukur absorbansinya pada panjang gelombang maksimum 222 nm dalam rentang waktu *operating time* 4-6 menit. Dilakukan juga validasi metode analisis meliputi linieritas, akurasi, presisi, batas deteksi (LOD) dan batas kuantitasi (LOQ).

Hasil penelitian menunjukkan kadar sampel suspensi oral ibuprofen merek A, B dan C sebelum diberi perlakuan semuanya memenuhi persyaratan kadar obat dalam Farmakope Indonesia Edisi VI tahun 2020 yaitu antara 90% - 110%. Sampel yang disimpan dalam kulkas diketahui mengalami penurunan kadar yang tidak sesuai ketentuan dalam Farmakope Indonesia Edisi VI. Diketahui bahwa waktu dan suhu penyimpanan mempengaruhi kadar ibuprofen dalam sediaan suspensi oral.

Kata kunci : spektrofotometri UV-Vis, suhu penyimpanan, suspensi ibuprofen, waktu penyimpanan

ABSTRACT

FARRA ALIEFIA SANTOSO, 2021, THE EFFECT OF STORAGE ON THE LEVEL OF IBUPROFEN IN SUSPENSION PREPARATIONS BY UV-VIS SPECTROPHOTOMETRY, SCIENTIFIC WRITING, DIPLOMA PHARMACY AND FOOD ANALYSIS, FACULTY OF PHARMACY, SETIA BUDI UNIVERSITY. Supervised by apt. Reslely Harjanti, S.Farm., M.Sc

Ibuprofen is a non-steroidal anti-inflammatory drug (NSAID). One of the uses of ibuprofen oral suspension is as a fever-reducing drug. Its use only to relieve symptoms causes ibuprofen suspensions to be often kept in stock for reuse if needed. This aims of this study were to determine the suitability of ibuprofen levels in the sample with the requirements for levels of ibuprofen oral suspension in the Indonesian Pharmacopoeia Edition VI of 2020 and to determine the effect of drug storage on the levels of ibuprofen oral suspension.

The analytical method used to determine the level of ibuprofen in the oral suspension sample was UV-Vis spectrophotometry. Samples were conditioned to 2 storage areas, namely room storage (25-30ºC) and refrigerator storage (2-8ºC), then the levels were analyzed on the 0, 7 and 14 days. The sample was prepared with 0.1 N NaOH solvent and the absorbance was measured at a maximum wavelength of 222 nm within an operating time of 4-6 minutes. Validation of analytical methods was also carried out including linearity, accuracy, precision, limit of detection (LOD) and limit of quantitation (LOQ).

The results of the study showed that the levels of samples of oral suspension of ibuprofen brands A, B and C before being treated all met the requirements for drug levels in the Indonesian Pharmacopoeia Edition VI of 2020, which were between 90% - 110%. Samples stored at refrigerator temperature are known to have decreased levels that are not in accordance with the provisions in the Indonesian Pharmacopoeia Edition VI. It is known that storage time and temperature affect ibuprofen levels in oral suspension preparations.

Keywords **:** ibuprofen suspension, storage temperature, storage time, UV-Vis spectrophotometry