

ABSTRAK

DEWI MUSTIKA AMALLIYAH., 2022 PENGARUH SUHU PENYIMPANAN REFRIGERATOR DAN SUHU RUANG TERHADAP KADAR INJEKSI SEFOTAKSIM SETELAH DIREKONSTITUSI DENGAN NaCl 0,9%, SKRIPSI, PROGRAM STUDI S1 FARMASI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA. Dibimbing oleh Dr. Supriyadi, M.Si. dan Apt. Avianti Eka Dewi Aditya Purwaningsih S.Farm., M.Sc.

Sefotaksim Natrium merupakan antibiotik β -laktam yaitu golongan sefalosporin generasi ke-3 yang mudah mengalami hidrolisis saat direkonstitusi. Penggunaan sefotaksim harus dilarutkan dengan pelarut yang sesuai. Sampel setelah direkonstitusi harus segera digunakan. Tujuan dari penelitian ini adalah untuk mengetahui pengaruh suhu penyimpanan terhadap kadar injeksi sefotaksim natrium dengan pelarut NaCl 0,9%.

Injeksi sefotaksim natrium dilarutkan dalam pelarut NaCl 0,9% sebanyak 100 ml kemudian disimpan pada suhu refrigerator (2°C - 8°C) dan suhu ruang (25°C - 30°C). Sampel dilakukan uji mutu fisik meliputi organoleptik dan pH serta penetapan kadar menggunakan KCKT dengan lama penyimpanan 0, 1, 3, 5, 7, dan 10 hari. Kadar dianalisis menggunakan SPSS dengan uji statistik *paired-samples t test* dan *uji independent sample t test*.

Hasil penelitian menunjukkan pengaruh suhu terhadap lama penyimpanan injeksi sefotaksim natrium pada uji mutu fisik organoleptik dan pH suhu refrigerator lebih stabil secara fisik dibanding pada suhu ruang. Penurunan kadar injeksi sefotaksim terjadi pada suhu refrigerator kurang dari 10% bila disimpan selama 10 hari dan dapat diterima sesuai dengan ketentuan kadar zat aktif dalam sediaan 95-110%, sedangkan pada suhu ruang kehilangan potensi kurang dari 10% setelah 1 hari penyimpanan. Pengaruh suhu penyimpanan terhadap kadar sediaan injeksi sefotaksim natrium menunjukkan bahwa pada suhu refrigerator lebih stabil dibanding pada suhu ruang.

Kata kunci : sefotaksim natrium, suhu, kadar, KCKT

ABSTRACT

DEWI MUSTIKA AMALLIYAH., 2022, EFFECT OF REFRIGERATOR STORAGE TEMPERATURE AND ROOM TEMPERATURE ON CEFOTAXIM INJECTION LEVELS AFTER RECONSTITUTION WITH 0.9% NaCl, THESIS , BACHELOR OF PHARMACHY, Faculty of pharmacy, UNIVERSIITAS SETIA BUDI, SURAKARTA. Supervised by Dr. Supriyadi, M.Si. and apt. Avianti Eka Dewi Aditya Purwaningsih S.Farm., M.Sc.

Cefotaxime sodium is a-lactam antibiotic, which is a 3rd generation cephalosporin that is easily hydrolyzed when reconstituted. Cefotaxime should be diluted with a suitable solvent. Samples after reconstituted should be used immediately. The purpose of this study was to determine the effect of storage temperature on the levels of cefotaxime sodium with 0.9% NaCl solvent.

Cefotaxime sodium injection was dissolved in 100 ml of 0.9% NaCl solvent then stored at refrigerator temperature (2°C - 8°C) and room temperature (25°C - 30°C). Samples were tested for physical quality including organoleptic and pH as well as determination of levels using HPLC with storage times of 0, 1, 3, 5, 7, and 10 days. Levels were analyzed using SPSS with paired-samples t test statistics and independent sample t test.

The results showed that the effect of temperature on the storage time of injection of cefotaxime sodium in the organoleptic physical quality test and the pH of the refrigerator temperature was more physically stable than at room temperature. A decrease in the concentration of cefotaxime injection occurs at refrigerator temperature of less than 10% when stored for 10 days and is acceptable according to the provisions of the active substance content in the preparation of 95-110%, while at room temperature the potency loses less than 10% after 1 day of storage. The effect of storage temperature on the levels of cefotaxime sodium injection preparations shows that at refrigerator temperature it is more stable than at room temperature.

Keywords: *cefotaxime sodium, temperatur, rate, HPLC*