

Analytical study of fluoxetine in biological specimens - development and validation of a spectrophotometric method

Carmen PURDEL^{*}, Dan BALALAU, Mihaela ILIE and Florica NICOLESCU

Department of Toxicology, Faculty of Pharmacy, "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania

Abstract. A simple and accurate method was developed for determination of fluoxetine in aqueous solution and biological sample. Particular efforts were made to find the best system of solvents for liquid-liquid extraction. n-hexane/ isoamyl alcohol (97:3 v/v) proved to be suitable for the extraction of fluoxetine from biological samples, comparing to n-hexane, chloroform or ethyl acetate. Good extraction yields were obtained from human urine and bovine serum. The spectrophotometric method was validated through all necessary parameters, according to ICH guidelines. The absorbance intensity vs. concentration plot was linear over the range 40-400 µg/mL fluoxetine, with a correlation coefficient of 0.99. The detection limit was found to be 0.07 µg/mL and the quantitation limit was of 0.23 µg/mL. The method is suitable to measure fluoxetine in biological samples, and can successfully be used to monitorize therapeutic levels of fluoxetine.

Keywords: fluoxetine- biological specimens- spectrophotometric assay
