ABSTRACT

APPLICATION METHODS SPECTROPHOTOMETRIC UV FOR DETERMINATION OF DICLOFENAC NATRIUM

A spectrophotometric methods for the determination of diclofenac natrium in pharmaceutical formulations was developed. The purpose of this study was to determine the method validation of individual absorption and first derivative such as, linearity, specificity, accuracy, and precision and assay of diclofenac natrium on Voltaren tablets according to the requirements of the British Pharmacopeia, which is 90-110%. Accuracy and precision using simulation tablets of diclofenac sodium 25.0 mg and 50.0 mg each replicated five times, whereas in the assay using Voltaren tablets 25 mg and 50 mg diclofenac sodium each replicated five times. Then, linearity, accuracy, precision, and asaay of diclofenac natrium were measured using individual absorbtion and first derivative. The methods were applied to the determination of diclofenac natrium 25.0 mg in simulation tablets using individual absorbtion and first derivative with average of recoveries are (99.82±1.89)% and (98.19±1.76)%, repectively; 50.0 mg diclofenac natrium in simulation tablets using individual absorbtion and first derivative with average of recoveries are (97.60±1.65) and (97,36±1,39), respectively. The average labelled amount of diclofenac natrium 25 mg in Voltaren tablet using individual absorbtion and first derivative were (98,00 ±1,81)% and (96,81±1,75), respectively; diclofenac natrium 50 mg in Voltaren using individual absorbtion and first derivative tablet (101,12±6,13) and (97,62±3,61), respectively. They are not exceed the labelled amount claimed according *British Pharmacopeia* (90-110%). From the analysis of data using Student T-Test is known that there was no significant difference in the individual absorption and first derivative so that it can be be used both of them to analyze diclofenac natrium. Thus, the determination of diclofenac natrium can use the absorption individual and first derivative spectrophotometric UV. However, individual absorption is more profitable way because it is more practical, easy, and fast.

Key words: Diclofenac natrium, individual absorption, first derivative, spectrophotometric UV.