A QUALITATIVE AND QUANTITATIVE STUDY OF DIFFERENT COMMERCIAL BRANDS OF METFORMIN TABLETS IN KENYAN MARKET

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ABSTRACTS

Metformin is often prescribed for hyperglycemic control in type II diabetes mellitus. This drug is the first line treatment for obese without renal or liver failure. Different pharmaceutical types of Metformin are available with the same amount of active pharmaceutical ingredient creates the need to monitor and ascertain the quality of the various brands available in the Kenyan market. The purpose of my research was to evaluate and establish if the metformin products are in compliance with United States pharmacopoeia specifications. Seven brands of Metformin hydrochloride tablets were assessed through the evaluation of both official and non-official standards such as uniformity of weight, friability, hardness and Assay. All the brands passed the qualitative chemical identification test. Brand C and F had the lowest and highest crushing strength respectively. However, for the friability test all of the seven brands met the United States Pharmacopoeia specification for friability. An assay analysis by UV method was quantitatively employed to measure the amount of active drug in the formulation to establish uniformity in manufacture. All of the seven brands studied had values within the range of 95-105% as specified for assay in the USP. This study involved the tests of the tablets weight uniformity and assay in order to assess batch to batch consistency and detect any deviations in manufacture exhibited in the study. It can be concluded that all the seven brands evaluated in this study passed pharmacopoeial limit tests conducted by UV assay method. Also all batches passed the non compendial test for hardness and compendial tests of identity, weight variation and friability and thus the comparative study exhibited consistency in manufacture. It is recommended that quality control standards, equipments and procedures should be validated within set non compendial and pharmacopoieal specifications, good storage and packaging practices and conditions tend to promote shelf life of the drug within the stipulated period. Post marketing surveillance and stability studies are considered essential in monitoring formulations during their shelf life so as to maintain quality. The data collected in the study was recorded in the process of analysis. The study was conducted between august and September 2013 at Mount Kenya University laboratory of pharmaceutical chemistry.