In vitro dissolution profile of different brands of low solubility drugs available in the nigerian and brazilian pharmaceutical markets

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The present work describes the in vitro dissolution profiles of different brands of furosemide, glibenclamide, albendazole, ibuprofen, carvedilol and hydrochlorothiazide tablets available in the Nigerian and Brazilian pharmaceutical markets. The dissolution test was performed by following the recommendation of the United States Pharmacopeia (USP), FDA and developed method (carvedilol). A filter selection test was done for the drugs; the results obtained indicated that cannula filter was ideal for all the drugs with the exception of carvedilol which was centrifuged. The ANOVA of the filter selection showed no significant retention of drug with cannula filter ($p > 0.05$), with the exception of carvedilol ($p< 0.05$). The data obtained from the dissolution test was subjected to statistical analysis in a Microsoft excel and Minitab 17 (USA). Dissolution efficiency (%DE) was calculated for the formulations to evaluate their in vitro biopharmaceutical features. Tukey grouping, ANOVA and confidence interval (CI) were obtained for the comparison of the results. The ANOVA of the results indicated that the brands of (albendazole, ibuprofen, furosemide, glibenclamide, & carvedilol) were statistically different ($p< 0.05$). Hydrochlorothiazide brands were pharmaceutical equivalents ($p > 0.05$). A comparison of the results showed that 94.1% and 58.8% of the Brazilian and Nigerian brands passed respectively.

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