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In-vitro studies of the orally disintegrating tablet formulations containing mirtazapine by novel artificial saliva fluids

Arslan A, Atalay F, Esim O, Kose Ozkan C, Savaser A and Ozkan Y
University of Health Science, Turkey

It is aimed to develop a new artificial saliva fluid. PH, conductivity and viscosity measurements of developed artificial saliva formulations were analyzed for this purpose. Then, these artificial saliva formulations were used to reveal dissolution rate profiles of an orally disintegrating tablet containing mirtazapine. It was determined that the artificial saliva formulation containing Carbopol® 934 (AS-C) successfully simulated the normal saliva and that there was no statistically significant difference between them by ANOVA ($p>0.05$). Dissolution rate profiles of the orally disintegrating tablet containing mirtazapine studies were performed. First, the time spent in the saliva environment of the tablets and the mechanical movements of the oral cavity were simulated by the donor compartment of the Franz diffusion cell. After diffusion studies, it was determined that mirtazapine did not pass through the diffusion dialysis membrane. For this reason, it is sufficient to use only Apparat II in the pH 6.8 phosphate dissolution medium for dissolution rate studies of an orally disintegrating tablet containing mirtazapine. Dissolution rate studies have shown that this studies can be completed in 15 minutes since there is no statistically significant difference between 15min and 45min in terms of percent dissolved mirtazapine by t-test ($p>0.05$). As a result, all *in-vitro* assays performed that the artificial saliva fluid containing Carbopol® 934 (AS-C) successfully simulated the normal saliva fluid for pharmaceutical studies.

alper.arslan@sbu.edu.tr