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Evaluation of Physicochemical Characteristics of Suspensions Containing Hydrochlorothiazide Developed for Pediatric Use

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SUMMARY. Hydrochlorothiazide (HCTZ) is a thiazide diuretic used in pediatric patients despite the lack of a liquid form commercially available. Pediatric suspensions containing 0.6% of CMC-Na (F1) or 0.6% of HPMC (F2) were developed and their physicochemical characteristics were analyzed. The *in vivo* activity of the F1 and F2 was carried out in rats. The formulation F1 showed zeta potential value of -22.6 mV ± 1.6, while for F2 the found value was -2.01 mV ± 2.3. The mean particle size found for F1 and F2 were 44.1 μm ± 2.3 and 16.3 μm ± 1.9, respectively. The F1 sediment was easily redispersed with soft agitation of 13.3 s. On the other hand, F2 with non-charged HPMC, was denser and more difficult to redisperse. Both formulations showed an increase in urinary volume and electrolytes excretion (Na^+, K^+, Cl^-) in rats.

KEY WORDS: Hydrochlorothiazide, Pediatric patients, Pharmaceutical suspension, Physicochemical characterization, Water-soluble polymers.

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