ABSTRACT:

Background: Maintaining safety and efficacy is an important task when splitting a tablet. This Pharmacy practice affords the patient with unavailable required dose, easy swallowing, and cost-saving measure. **Aims:** To access the role of formulation variables on the weight uniformity test of halves tablets. **Methods:** Uncoated and coated placebo tablets were prepared using wet granulation technique. After compression, hardness, disintegration time, friability and weight variation were evaluated according to the USP test. Both coated and uncoated tablets were divided and the obtained halves were weighed and the uniformity of halves was assessed for each kind of tablets. Data was analyzed using 2^3 Factorial design to find the significance of the individual and combined effects of three Factors (size, hardness, and coating) involved in the uniformity of the obtained tablet halves of placebo tablets. **Results:** Despite the hardness, size, tablet shape (oval, disc, capsule), all of them passed the splitting test except for the disc shape which showed %RSD higher than 6%. However, hardness, and the coating had a generally positive trend on tablet breaking since they gave low% RSD. **Conclusion:** These findings suggest that the disc shape particle is not suitable for breaking. In addition, film coating, as well as high hardness may give better uniformity of the obtained halves, since a decrease in the calculated %RSD was observed.

Keywords: Tablet, weight uniformity, halves, manufacturing