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Mahesparan, V.A.[a] , Bin Abd Razak, F.S.[a] , Ming, L.C.[b] , Uddin, A.H.[c] , Sarker, M.Z.I.[c] , Bin, L.K.[d]

Comparison of Disintegrant-addition Methods on the Compounding of Orodispersible Tablets
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[a] Department of Pharmaceutical Technology & Industry, Faculty of Pharmacy, University of Cyberjaya, CyberjayaSelangor, Malaysia
[b] PAPRSB Institute of Health Sciences, Universiti Brunei Darussalam, Brunei Darussalam
[c] Faculty of Pharmacy, International Islamic University Malaysia, Bandar Indera Mahkota, Malaysia
[d] Department of Pharmaceutical Technology & Industry, Faculty of Pharmacy, University of Cyberjaya, CyberjayaSelangor, Malaysia

Abstract
Orodispersible tablets disintegrate rapidly (within 3 minutes) in the oral cavity and release the medicament before swallowing. The mode of disintegrant addition might affect the properties of orodispersible tablets. The objective of this study was to formulate and evaluate orodispersible tablets by studying different modes of disintegration addition with varying concentrations of disintegrants. The wet granulation method was used to produce the orodispersible tablets. Two methods of disintegration addition were compared (i.e., intragranular, extragranular). Three disintegrants (i.e., cornstarch, sodium starch glycolate, crospovidone) were used at three levels (5%, 10%, and 15%) in the study. The formulations were tested for the powder flowability (angle of repose) and characterized physically (hardness, weight, thickness, friability, disintegration time). The mangosteen pericarp extract was used as a model active pharmaceutical ingredient to be incorporated into the optimum formulation. It was observed that the extragranular method produced granules with better flowability compared to that of the intragranular method. Crospovidone was found as the most efficient disintegrant among the three. The optimum formulation selected was one with the highest concentration of crospovidone (15%), which showed the fastest disintegration time. The mode of disintegrant addition into the orodispersible tablets formulation was found to show a marked difference in the disintegration, as well as other physical characteristics of the orodispersible tablets where the extragranular mode of addition showed better property, which caused the orodispersible tablets to disintegrate the fastest. Copyright© by International Journal of Pharmaceutical Compounding, Inc.

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