Abstract

Coriandrum sativum leaves extract was made in dosage form of effervescent granules which were expected to have an ability in treating Alzheimer's disease. It is essential to obtain the optimal formulation in order to achieve the most efficient medications. Therefore, this study aimed to formulate effervescent granules containing coriander extract and evaluate the physicochemical characteristics of the granules. Spray drying and wet granulation process was employed. Several assays were performed to determine the flavonoid, phenolic, and antioxidant content of the extracts and formulas. A significant difference in TFC and TPC was found between liquid extract and spray-dried extract as well as F2 and F3 to F1 (p-value<0.05). Several evaluations were performed to evaluate physical characteristics of granules, including organoleptic, flow time, dispersion time, moisture content, pH, Carr's index, Hausner ratio, and particle distribution. All of the formulas passed the evaluation test, except for F3 which have lower pH from acceptable range. Organoleptic results showed that all of the granules had a light yellowish color, which had the sweet scent for F2 and sweet scent combined with citrus for F1 and F3. Statistical analysis found the difference of using single acid and combined acid in flow time, dispersion time, pH, angle of repose evaluation. However, it was found no difference in moisture content, particle distribution, Hausner ratio, and Carr's index evaluation. Lastly, F2 is the most preferred formula compared to F1 and F3 for use in dosage formulations in terms of its physicochemical properties.

Keywords: effervescent granules, *Coriandrum sativum* leaves extract, wet granulation