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Development and characterization of a superdisintegrant enhanced effervescent tablet

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Abstract

Introduction Effervescent tablet is a tablet intended to be dissolved or dispersed in water before administration. It has become popular dosage form among patients who have difficulty in swallowing tablets and capsules. Objective The objective of this study was to formulate and evaluate effervescent tablet with the optimum percentages of effervescent agents and study the effect of addition of superdisintegrant. Methodology This study was divided into two parts. The effect of different percentages of citric acid and sodium bicarbonate on the effervescent tablet was studied in the first part of the study. The second part of the study was to formulate effervescent tablet with different percentages of sodium starch glycolate which acted as superdisintegrant. The effervescent tablets were evaluated based on their hardness, disintegration time, percentage of weight loss, uniformity in weight and thickness. Result and discussion Formulation 7 which contains 40% of effervescent agent and 10% of superdisintegrant has the fastest disintegration time (44.83 ± 6.97 s) and sufficient crushing strength (4.32 ± 0.67 kg). Conclusion: Formulation 7 was selected as optimum formulation in term of disintegration time due to a combination effect of effervescent and swelling of tablet. © 2020, Advanced Scientific Research. All rights reserved.

Author Keywords

Citric acid; Effervescent tablet; Sodium bicarbonate; Sodium starch glycolate; Superdisintegrant

Index Keywords

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