The use of D-optimal mixture design in optimizing development of okara tablet 2 formulation as a dietary supplement

ABSTRACT

The usage of soy is increasing year by year. It increases the problem of financial crisis due to the limited sources of soybeans. Therefore, production of oral tablets containing the nutritious leftover of soymilk production, called okara, as the main ingredient was investigated. The okara tablets were produced using the direct compression method. The percentage of okara, guar gum, microcrystalline cellulose (Avicel PH-101), and maltodextrin influenced tablets' hardness and friability which are analyzed using a D-optimal mixture design. Composition of Avicel PH-101 had positive effects for both hardness and friability tests of the tablets. Maltodextrin and okara composition had a significant positive effect on tablets' hardness, but not on percentage of friability of tablets. However, guar gum had a negative effect on both physical tests. The optimum tablet formulation was obtained: 47.0% of okara, 2.0% of guar gum, 35.0% of Avicel PH-101, and 14.0% of maltodextrin.

Keyword: Soybeans; Okara tablet; Dietary supplement