APPLICATION OF RESPONSE SURFACE METHODOLOGY
AND GOAL PROGRAMMING FOR MEDICINE TABLET
PHYSICAL AND MECHANICAL OPTIMIZATION

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ABSTRACT

Pharmacy industry produce many kind of medicine, one of them is solid production (Medicine Tablet). Tablet is the most widely produced and received by the people because of many benefits. The benefits of the tablets are easy to carry, compact form, and easily given. Because tablet is the most widely received by the people and have many benefits, tablet must have good physical and mechanical characteristic. Good tablet must have high level of hardness, short disintegration time, and low level of friability. Factors thought to affect physical and mechanical of the tablet are levels of binder substance, levels of disintegrant substance and pressure of the machine.

Method that will be used in this research is Response Surface Methodology. Respon Surface Methodology used to determine the effect of factors on the responses. From this methodology will be obtained the relationship equation between factors and responses. This equation will be processed with the goal programming to get optimal output.

The result of this research is the factors of levels of binder substance, levels of disintegrant substance and pressure of the machine shown to significantly affect the responses of hardness level, friability level and disintegration time. The results of the experiment of making tablet using optimal factors show compliance with the prediction model.

Keyword: Response Surface Methodology, Goal Programming, Optimization Physical and Mechanical, Medicine Tablets.
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