

DEVELOPMENT OF AN EASY-TO-USE DOSAGE FORM FROM FRESH GINGER RHIZOME (*ZINGIBER OFFICINALE*)

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Abstract: Ginger (*Zingiber officinale*) has been widely used in Ayurveda and Chinese medicine and has been commonly used as a spice from ancient times. In Sri Lanka, ginger is cultivated as a commercial crop hence there is an abundant harvest. The water-soluble powder form of Ginger rhizome (Ardraka Satva in Ayurveda) is an effective preparation for many disease conditions. In this study an approach was made to produce a water-soluble powder form of fresh ginger rhizome as an easy-to-use dosage form, considering the availability. Local ginger variety was selected as a research drug and three samples were prepared per standard procedures. Cleaned fresh ginger rhizomes were cut into pieces and crushed. Then, crushed rhizomes were kept for one night to obtain the sediment by adding four parts of water. Next day white color powder extract was obtained after removing the supernatant water and drying the powder in shade. This preparation in an easy-to-use dosage form was evaluated for organoleptic, physicochemical, phytochemical, and chromatographic parameters and also detected the shelf life of the finished product for six months at room temperature. Results revealed that the moisture content of the ginger extract was 9.01% and the ash value was 0.43%. The water-soluble ash value was 0.37%. Phytochemical analysis of hot water extract of ginger extract revealed the presence of starch and alkaloids only. TLC studies were done by using the solvent system of toluene: ethyl acetate: formic acid-9:1:2 ratio. In the chromatographic study, it showed a prominent area with a 0.4 R_f value. After six months the shelf life study showed similar organoleptic features of the dried powder. Results of these physicochemical, phytochemical, pharmacognostic and TLC analysis can be used as standards of Ginger extract and this research also seek to enhance the value of ginger crops in Sri Lanka by transforming excess harvests into innovative and easy-to-use dosage forms. The project not only has the potential to bolster the agricultural sector but also provides consumers with user-friendly, ginger-infused products, thereby fostering a positive impact on public health and the economy while promoting sustainable resource utilization.

Keywords: Dosage form; Easy-to-use; Ginger; *Zingiber officinale*