

Thesis Title Efficacy in Treatment of Burn and
 Toxicity Studies of ALOE VERA
 (Linn.) Burm. f. Gel and Its Preparation.

Name Suwana Jirakulchaiwong

Degree Master of Science (Pharmacy)

Thesis Supervisory Committee

 Suwan Thirawarapan, Ph.D.
 Jain Manonukul, M.D.
 Nuntavan Bunyapraphatsara, Ph.D.

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ABSTRACT

Aloe vera (Linn.) Burm.f. has been recognized as one of the valuable medicinal plant. It's efficacy for a treatment of burn led to extensive studies for antiinflammatory, wound healing and related activities. The instability of aloe gel caused pharmacological data confusion and inconsistency in treatments. Thai government has encouraged people to use *Aloe vera* (Linn.) Burm.f. for the treatment of burn in the households and hospitals. The inconvenient in daily preparation caused the difficulty in extending the clinical use of aloe gel. This obstracle prompted us to develop a stable aloe preparation. Pharmacological evaluation was carried out using mice and self control study. The results revealed that aloe cream is a good preparation for the

treatment of first and second degree burns. Aloe cream when applied immediately after burn delayed the progressive damage and accelerated healing rate. For the first degree burn, aloe cream showed better effect than fresh aloe gel. Both aloe cream and fresh aloe gel prevented further skin damage, casting of dead epidermis was less than in control. The healing rate was enhanced by aloe cream and fresh aloe gel in second degree burn. Less inflammation was observed in aloe cream and fresh aloe gel treated group compared to untreated group or group receiving cream base. Failed to statistically evaluate the efficacy of aloe cream and fresh aloe gel in the treatment of third degree burns due to infection. However, it was observed that aloe cream enhanced the epithelization but failed to showed antiinflammatory activity. No difference in epithelization and inflammation was observed among fresh aloe gel, cream base and control. The preparation was proved to be safe basing on the acute and subchronic toxicity studies. Besides, no treated animal was dead after repeat treating with preserved aloe gel and fresh aloe gel as performed in the experiments. And no erythema and edema on rabbits skin were observed.