

WOUND HEALING ACTIVITY OF FLAXSEED (*LINUM USITATISSIMUM*) EXTRACT (WATER AND ETHANOL) ON HUMAN ORAL FIBROBLAST CELLS (*IN VITRO*)

Sama Naziyah SHABAN¹, Khairani Idah MOKHTAR², Solachuddin ICHWAN², Basma Ezzat Mustafa ALAHMAD²

1. Kulliyah of Medicine, International Islamic University Malaysia, 25200 Kuantan, Pahang, Malaysia

2. Kulliyah of Dentistry, International Islamic University Malaysia, 25200 Kuantan, Pahang, Malaysia

Presenting Author: Sama Naziyah Shaban, email: samaalahmad91@gmail.com

Abstract:

Flaxseed (*Linum usitatissimum*) plant has many health beneficial effects such as anti-microbial, anti-fungal and anti-cancer effects. In the current study, the wound healing activity of flaxseed (*Linum usitatissimum*) extract is being tested on oral fibroblast cell line. Flaxseed (*Linum usitatissimum*) is extracted using Soxhlet extraction method via two mediums water and ethanol to assess and compare the difference between the activities of both extracts; if present. After the extraction procedure, the extracts were tested for their biological activity using 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyl tetrazolium bromide (MTT) assay to determine the safety and dosage of the extract to be administered onto the oral fibroblast cells. Then, the wound healing assay is carried out to test the activity of both water and ethanol flaxseed extract on oral fibroblast cells. The results revealed that both water and ethanol extract have high wound healing activity against oral fibroblast cell line where ethanolic extract shows slightly higher activity in healing on oral fibroblast wounds (*in vitro*). One-way ANNOVA was carried out with post-Hoc Turkey test where the *P* value of compared variables was found to be < 0.05 at 95% confidence interval. Based on the results obtained; it could be concluded, that flaxseed extract has a potential wound healing activity as the results shows high wound healing activity on oral fibroblast cell line.

Keywords: *Linum usitatissimum*, GC-MS, MTT