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## Wound healing of novel pharmaceutical formulations through cytokine modulation

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Wound healing is a set of complex processes consisting of numerous phases such as inflammation reduction, epithelialization, angiogenesis, matrix deposition, and remodeling. Cytokines are involved in the recruitment of fibroblasts and epithelial cells because of inflammatory leukocyte stimulation, leading to granulation tissue development. Novel medicinal oil and nano formulations were developed and screened for the potential wound healing activity. The study suggested that the medicinal oil prepared from *Murraya koenigii* leaves extract and phyto oleic acid nanovesicles developed from Sargassum binder (an alga) in healing diabetic wounds have promising therapeutic effects. Both medicinal oil and nanovesicles modulated cytokine networks and aid in wound healing.

### Recent publications:

1. S S Moni, P Tripathi, M H Sultan. et al, Wound-healing and cytokine-modulating potential of medicinal oil formulation comprising leaf extract of *Murraya koenigii* and olive oil. Braz. J. Biol. 82; 2022.

2. Kaur P. et al, Novel nano-insulin formulation modulates cytokine secretion and remodeling to accelerate diabetic wound healing. Nanomedicine: NBM 2019;15:47-57
3. Riham O Bakr, Reham I Amer, Dalia Attia d, Mai M Abdelhafez, et al. In-vivo wound healing activity of a novel composite sponge loaded with mucilage and lipoidal matter of Hibiscus species. Biomedicine & Pharmacotherapy 135 (2021) 111225.

### Speaker Biography

Sivakumar S Moni is an assistant professor at the College of Pharmacy, Jazan University, Jazan, Kingdom of Saudi Arabia. He is an active researcher, undergoing many funded projects. His research work is on nanomedicine as targeted delivery, drug delivery, and vaccine delivery. His research work extended on newer drug design for the development of antimicrobials, anticancer, and immunomodulatory principles from the seaweed and herbs of the southwestern region of Saudi Arabia. He has more than 50 research cum review articles in peer reviewed journals.

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