SYNTHESIS, CHARACTERIZATION, AND EVALUATION OF WOUND HEALING PROPERTIES OF CHITOSAN/ZINC OXIDE NANOPARTICLE COMPOSITE AS WOUND DRESSING IN MICE

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ABSTRACT

CABANIZAS, CHRISTIAN DAVE, Department of Biological Sciences, College of Arts and Sciences, Central Luzon State University, Science City of Munoz, Nueva Ecija, Philippines, **JUNE 2019, SYNTHESIS, CHARACTERIZATION, AND EVALUATION OF WOUND HEALING PROPERTIES OF CHITOSAN/ZINC OXIDE NANOPARTICLE COMPOSITE AS WOUND DRESSING IN MICE**

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Chitosan and zinc oxide nanoparticles extracted from Pechay leaves and their nanocomposite at various concentrations were all synthesized and characterized using FT-IR, UV-Vis and DLS Analysis.

These were also evaluated for their wound healing activity in mice (*Mus muculus*) as the experimental animal. Parameters such as wound area, wound healing rate, coloration and appearance of the wound were assessed every day for 10 days.

The synthesized chitosan and zinc oxide nanoparticles and CHS/ZnO nanocomposite were successfully confirmed via FT-IR, UV-Vis and DLS Analysis.

For the wound healing evaluation, results have displayed that there was no significant difference observed higher than the positive control. However, the CHS/ZnO 3:1 concentration ratio have possessed the highest wound healing rate among all the formulated concentrations with a mean value of 91.66 next to the positive control (93.13). All the other treatments used have also shown to be comparable to the positive control.

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