

Abstract

In this work, two nanocomposites—Curcumin-loaded Chitosan-Ni and PEG-Ni—are compared and contrasted with an eye on their potential for use in wound healing. Due to their improved therapeutic characteristics, nanocomposites have attracted a lot of attention for their use in wound healing. Nickel nanoparticles are synthesized using turmeric extract via green synthesis. To evaluate the structural and morphological characteristics of the nanocomposites, a variety of analytical techniques including UV-Vis, SEM, FTIR, Zeta Potential and XRD were used to characterize them. They were also tested for their capacity for wound closure and cytocompatibility in in vivo experiments. The findings show that both nanocomposites have good wound healing abilities, however Chitosan-Ni has better cytocompatibility. PEG-Ni has improved drug release kinetics. More in vivo research is required to confirm their safety and efficacy in clinical settings.