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Paper Title:	Assessment of the Utility of Chitosan in Drug Delivery of Sulfamethoxazole
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Abstract

The objective of this research was to develop chitosan (CS) nanoparticles (NP) and microfibres (MF) for oral delivery applications related to low solubility drugs. The ionic gelation method in conjunction with freeze-drying was used to produce crosslinked chitosan material. The dynamic light scattering (DLS) technique was used to characterize particle size and polydispersity index (PDI). Surface morphology was analyzed using scanning electron microscopy (SEM). The antibiotic drug sulfamethoxazole (SMO) was loaded onto the chitosan nano/micro material. The degree of loading and the release kinetics were investigated using high-performance liquid chromatography (HPLC) and UV-visible spectrophotometer respectively. We found that CS nanoparticles have the potential to improve delivery properties of SMO due to the rapid release compared to microfibres or traditional tablet formulations.