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Review Article

BETWEEN THE BIOACTIVE EXTRACTS OF EDIBLE MUSHROOMS AND PHARMACOLOGICALLY IMPORTANT NANOPARTICLES: NEED FOR THE INVESTIGATION OF A SYNERGISTIC COMBINATION - A MINI REVIEW

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ABSTRACT

The pharmacological potential of bioactive compounds extracted from mushrooms has been studied to a reasonable level. In the same vein, the bioactivity of nanoparticles has also been investigated and reported to be of potential pharmacological benefit. No doubt, there is a reasonable amount of claims regarding the vast activity of the mushroom extracts and nanoparticles on the tested cell lines and microorganisms. In this paper, a review of the recent application of bioactive compounds extracted from two edible mushrooms (*Coprinus comatus* and *Lactarius deliciosus*), as well as some of the recently reported studies on some nanoparticles of pharmacological potentials, was carried out. In order to check for synergy in the bioactivity of the mushroom extracts when co-administered with nanoparticles, an investigation on the synergistic application of the materials through the encapsulation of the bioactive extracts from the mushroom onto the nanoparticle was proposed. The supposed synergy in the activity of the extract-nanoparticle complex could hold the key to improved activity of nutraceuticals against resistant microorganisms and tumor cells.

Keywords: *Coprinus comatus, Lactarius deliciosus,* Nanoparticles, Synergy, Bioactive extracts.

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