

**FUNGUS-MEDIATED SYNTHESIS OF SILVER NANOPARTICLES  
(AgNP) AND THEIR ACTIVITY AGAINST ASPERGILLUS SPP.  
IN COMBINATION WITH ANTIFUNGAL AGENT**

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In this study, *A. niger* synthesised silver nanoparticles (AgNP) were characterised by using UV-Vis Spectrophotometry and Atomic Force Microscopy (AFM). The antifungal effect of synthesised AgNP and antifungal agent Amphotericin B (AMP-B) combination were investigated against *Aspergillus* spp. Antimicrobial efficiency were evaluated by Agar Disk Diffusion Test. In the end of this study, the particule size of AgNP which biosynthesised on *A. niger* were measured between 13.183-646.782 nm by AFM. The development of antifungal inhibition zone on *A. niger* and *A. flavus* was respectively carried out to evaluate on application of AgNP; between 0-0.67 mm, 0-0.42 mm, AMP-B; 0.70-1.50 mm, 0-0.65 mm, AgNP+AMP-B; 1.14-2.00 mm, 0-1 mm. According to this study data, antifungal effect of AgNP, AMP-B and AgNP+AMP-B were determined 0.4%, 1.4%, 2.4% on *A. niger*, 0.1%, 0.45%, 0.65% on *A. flavus*. According to antifungal zone occurrence of both fungi results, the AMP-B were increase 43.91% of AgNP; AMP-B+AgNP 40.84% of AMP-B, AMP-B+AgNP 84.75% of AgNP. The statistical evaluation of this study showed that multiple comparison of AgNP, AMP-B and AgNP+AMP-B on *A. niger* and *A. flavus* were significant ( $p < 0.005$ ).

Keywords: *A. niger*; silver nanoparticle; antifungal; uv-vis spectrophotometry; atomic force microscopy

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