**Abstract**

The present study was focused to investigate the *in-vitro* antibacterial activity of bulk and nano forms of zinc (Zn) and copper (Cu) against the Gram-negative pathogenic bacteria *Aeromonas hydrophila*.The *in-vitro* antibacterial activities of these metals were determined by well diffusion method. The pure cultures of *A. hydrophila* were sub cultured on nutrient agar medium and swabbed uniformly onto nutrient agar plates and 6 mm wells were punched into the each nutrient agar plates. Zn, Zn nanoparticles (ZnNPs), Cu and Cu nanoparticles (CuNPs) were suspended in double distilled water using ultra sonicator. Further, the each suspended metals were poured onto each respective wells at the concentrations of 100 µg, 200 µg and 400 µg. The wells without any metal were served as control. The plates were incubated for 24 h at 35-37°C and the antibacterial activity was determined by zone of inhibition in mm. The zone inhibition of *A. hydrophyla* was observed in all treated wells with both bulk and nanosized metals. Among these metal forms, CuNPs treated well showed more inhibition in all three concentrations followed by Cu, ZnNPs and Zn, whereas, the control wells of the culture plates did not showed any zone inhibition. This study indicates that nano forms of Zn and Cu have more growth inhibition against *A. hydrophila*. Hence**,** it suggests that these ZnNPs and CuNPs can be used as antibacterial agent against *A. hydrophila*.