

## ABSTRACT

Diabetes has emerged as one of the common chronic diseases of our times, causing costly complications and reducing life expectancy. Nanotechnology in diabetes research dramatically improve quality of life for diabetics. In a single green manufacturing step, biomolecules found in plant extracts can convert metal ions to nanoparticles. The goal of the current work is to create silver nanoparticles (AgNPs) using an extract of *Moringa oleifera* leaves and evaluate their effectiveness in mice. The 1:9 of plant extract and (AgNo<sub>3</sub>) was used for synthesis of nanoparticles. Characterization of green synthesized AgNPs was performed, UV visible confirmed the optical absorption peak 401nm. FTIR spectra confirmed the presence of the formation of synthesized AgNPs nanoparticles was also confirmed by SEM and XRD analysis. Albino mice were used as the model animal to test the antidiabetic activity of AgNps. 4 groups Group 1 nondiabetic, Group 2 diabetic, Group 3 treated with AgNPs 10mg/kg oral dose Group 4 which was treated with Glibenclamide 5mg/kg for 21 days. Blood samples was collected for serum test and then mice were slaughtered to obtain the kidney and liver tissues at 7, 14 and 21 days. In the treatment group (AgNPs) the blood glucose level decreased from 183±4.4 to 123±4.4 mg/dl, the serum urea leve 31± 0.8 to 47±1.7 mg/dl, bilirubin level 0.5±0.01 to 1.1±0.1mg/dl and creatinine level also decreased 0.8± 0.03 to 0.7± 0.01 mg/dl at 0 to 21 day. AST and ALT values also decreased this was clear indication of the antidiabetic activity in response to green AgNPs with *Moringa Oleifera*. This fact indicate that green synthesized AgNPs were efficient for antidiabetic activity. Additionally, the micrographs of liver and kidney also showed the antidiabetic effect of AgNPs.