Antibacterial activity of nanosilver in action of *Malva. Sylvestris* extract loaded on wood sawdust cellulose.

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Abstract:

Nanosilver particles have been prepared by heating of silver nitrate solution in the presence of *Malva. Sylvestris* extract in a slurry of cellulose. *Malva Sylvestris* extract was prepared by heating pieces of plant in water for 15 min at 80 C and filtrated and extract was kept in dark bottle. Cellulose was prepared by applying 18% NaOH on wood sawdust to produce a good amount of alpha cellulose. SEM, XRD and FTIR analysis were used for examination of nanosilver and showed the successful technique to prepare nanosilver particle. SEM image shows an individual crystal of nanosilver with different sizes of octahedron. This regular shape given it as cellulose work as a template to crystalize in nanometric octahedron. The antibacterial activity was studied by applying a powder of nanosilver/cellulose composite in comparison to cellulose alone and in the presence of two bacteria are E .coli and p. aeruginosa by diffusion well method. The two bacteria are inhibited by nanosilver/cellulose composite 5 and 6 mm respectively, where no antibacterial activity with naked cellulose.

Keywords: nanosilver, *Malva. Sylvestris,* extraction, cellulose sawdust.