

"Life Sciences for Human Wellbeing and Safe World"



2nd ICALS 2021



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Mawlana Bhashani Science and Technology University (MBSTU)
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BOOK OF ABSTRACT

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two of these combined AgNPs + methanol Extract paralysis and death time fall drastically which were (3.07 ± 0.6) minutes and (5 ± 0.4) minutes). Albendazole was used as standard which made worm death in (3.66 ± 0.1) min. **Conclusion:** Ag-Nanoparticles extracts showed strong anthelmintic activity against worm. This study has paved the way for further research to design a new anthelmintic drug from the combination of *Syzygium aromaticum* extract and AgNPs.

Keywords: Silver nanoparticles (AgNPs), Ag-extract nanoparticles, *Syzygium aromaticum*, Anthelmintic activity

PH-PP 07

Antimicrobial activities and clinical effects of Black Seed (*Nigella sativa* L.)

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Abstract

Background: Antimicrobial resistance has gained an esteemed global health concern since standard treatments for infectious diseases become less effective or ineffective, resulting in approximately 700,000 deaths annually. Additionally, antibiotics caused many common side effects, such as hypersensitivity and depletion of beneficial gut microorganisms. Therefore, finding antimicrobial candidates from natural products has earned the highest priority because of their availability, acceptability, compatibility, and affordability. *Nigella sativa* L. (NS), commonly called black seed, is one of the important herbs traditionally used for centuries. NS is well documented in ancient scripts for its several therapeutic properties, including common cold, asthma, leprosy, diarrhoea, fever, jaundice, a health tonic for the liver and cardiovascular health, flatulence, diabetes, and bug bite. Moreover, it has many evidence-based pharmacological activities. Therefore, this study aims to provide a timely overview of up-to-date scientific knowledge and findings of NS on antimicrobial activities and clinical effects. **Materials and Methods:** The data were extracted from relevant papers systematically searched in PubMed, Scopus, Web of Science, and Google Scholar. The keywords were "*Nigella sativa*" or "black seed", and "antimicrobial" or "anti-bacterial" or "antiviral" or "antifungal" or "antiparasitic". **Results:** We have found 12 phytocompounds in NS that exhibited potential antimicrobial activities reported in both *in vitro* and *in vivo* studies. Different extracts of NS also showed excellent antimicrobial properties, and it was effective against antibiotic-resistant *Salmonella enterica*. Amoxicillin, chloramphenicol, tetracycline, gentamicin, and ampicillin resistant *S. enterica* was also significantly inhibited by NS extract and seed oil. Combined NS with other compounds was also efficacious for COVID-19. **Conclusions:** This study reaffirmed the antimicrobial efficacy and many therapeutic effects of NS in limited clinical studies. A medieval armamentarium of these effects is worth further clinical exploration in modern medicine.

Keywords: Black seed, Black cumin, Clinical effects, Infectious disease, Natural medicine

PH-PP 08

Evaluation of Antioxidant, Cytotoxicity and Anthelmintic Activities of Ethanolic Extract of *Punica Granatum* Leaves

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Abstract

Background: Plants are the major potential sources of drugs. *Punica granatum* plant is widely known for its fruit pomegranate. Pomegranate leaves are traditionally used in various purposes also. Our research work was aimed to investigate various pharmacological potentials of this plant's leaves extract such as antioxidant, cytotoxicity and anthelmintic activities. **Materials and Methods:** The antioxidant activity of ethanolic extract of the *Punica granatum* leaves were assessed by 2,2-diphenyl-1-picrylhydrazyl (DPPH) free radical scavenging method. Cytotoxic activity was evaluated by using brine shrimp lethality bioassay. Anthelmintic activity was evaluated by using worms. By reduction of AgNO_3 in presence of NaBH_4 , silver nanoparticles were prepared. After that silver nanoparticles and extracts were mixed then coated with polyaniline. Prepared nanoparticles were characterized visually. Nanoparticles were tested on worms to determine the paralysis and death time. **Results:** Ethanolic extract of the leaves showed significant DPPH free

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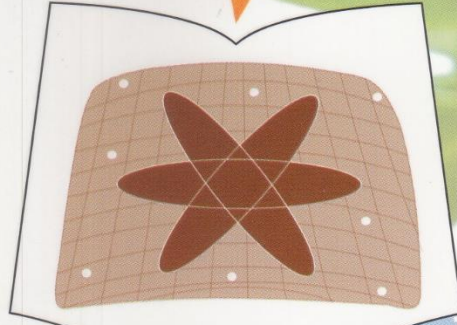
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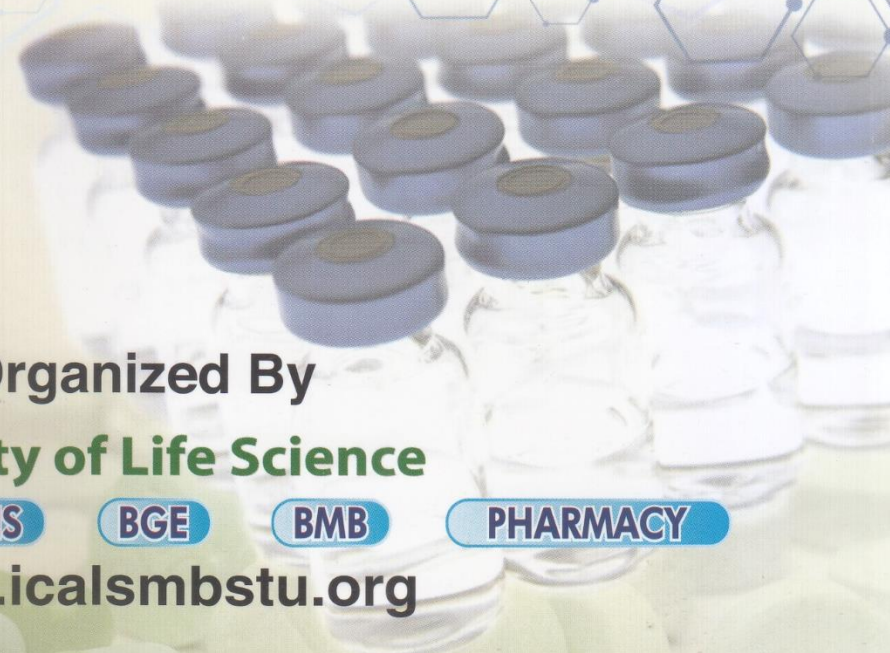
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