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Extended Abstract
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Infectious Diseases Conf 2019: Comparative study of antimicrobial activity of various silver nanoparticles synthesized by various green methods- May. Reda- Ajman University

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Abstract:

In recent years, silver nanoparticles (AgNPs) have drawn a great attention globally because of their unique characteristics making them used in a wide of applications in many fields. Lately, researchers have focused on the green synthesis of AgNPs. This type of synthesis is considered as an ecofriendly, low cost, and effective method for preparing nanoparticles; in contrast to chemical reduction methods that depend on using reducing agents which are not environmentally safe. In the present work, aqueous extracts of several plants including green tea, Ghaf, sage, ginger, garlic and capsicum were successfully used for the synthesis of the silver nanoparticles by reducing Ag+ ions (from AgNO3) into nanoparticles. The active constituents of the plants such as polysaccharides, phenolics, terpenoids and flavonoids play an important role as naturally reducing agents. Additionally, these groups of naturally occurring compounds can be used as capping agents for the AgNPs. In this study, we concentrated on the synthesis of AgNPs and compared between different products of AgNPs from different plants in terms of size, zeta potential, and antimicrobial activity. Charge of AgNPs from different plants were characterized using zeta potential analyzer, while UV-Vis spectrophotometer, dynamic light scattering (DLS), and transmission electron microscopy (TEM) were used for size measurement and to study the relationship between absorbance spectra and particle size. Figure 1 shows TEM and DLS results of size analysis of AgNPs synthesized from green tea extract. Moreover, we tested the antimicrobial activity of the synthesized AgNPs products, and they revealed a good activity against gram positive and gram negative bacteria and antifungal activity. Diphtheria is a significant child health problem in countries with low immunization coverage. Reports of diphtheria in adult population are also increasing. Here we describe three recent outbreaks of diphtheria in Solapur district, Maharashtra in two consecutive months

Healthcare assocaited infection leads to increase in hospital stay and cost. There are different measures recommended by various international associations to reduce incidence of healthcare associated infections. There is no consensus regarding pre-screening of multidrug resistance organisms at the time of admission. After literatue review, found that screening of MDROs will be beneficial in high risk patients. In our hospital we started for screening of Methicillin Resistant Staphylococcus aureus and found the similar results. In conclusion, decision to start prescreening for MDRs should take on the basis of local prevalence of organisms. Investigation was done on strong clinical suspected cases, throat swabs were collected. Diagnosis was done by clinical findings, direct microscopy, bacteriological culture and PCR for Tox A gene detection

The descriptive survey design was used to describe the assessment of knowledge, attitude and practice of infection control measures among nurses in the primary health care facilities of Gwandu local government area, Kebbi. This research design was utilized because it describes the situation as it normally occurs and identifies the problem areas within the practical situation. The research findings indicate that 20% of the respondents suggest awareness and enlightenment as a method to enhance the knowledge, attitude, practice and availability of infection control measures, 27% suggest health education, 3% suggest advocating, 27% suggest ensuring availability of infection control measures while 19% suggest workshops and seminars for the enhancement of knowledge, attitude, practice and availability of infection control measures. it was concluded that there is a high level of knowledge, positive attitude towards infection control measures, and low level of practice of

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the measures among nurses working in primary health care facilities, complicated with irregular availability of the infection control measures in the primary health care facilities of Gwandu local government area, Kebbi

Market Analysis

The market for infectious disease molecular diagnostics tests incorporates reference research centres, hospitals, blood banks. Size is predicted to grow at 9.42% CAGR from 2018 to 2023 and it is determined that the Middle East and Africa market was valued at USD 1.35 billion in 2018 and is depended upon to accomplish USD 2.12 billion by 2023. Diagnostics of the Infectious disease includes a different technique to check for the presence of a foreign antigen/organism with the assistance of numerous diagnostic tools. Conditions of the Infectious disease are highly widespread in underdeveloped regions due to the lack of awareness for individual cleanliness, minimal health care expenditures, and absence of effective physician services. Rising instances of infectious diseases in developed economies are additionally expected to help the market development. This has resulted in vitro diagnostic gadget makers to invest in emerging countries. These organizations are making efforts to develop and popularise cost-effective tools for the diagnosis of infectious diseases.

CONCLUSIONS:

The present study demonstrated that strains of C. diphtheriae are circulating in this geographical location which indicates the need for constant epidemiological surveillance ensuring early detection of diphtheria and review the efficacy of immunization programmer

Keywords: AgNPs, green synthesis, plant extract, chemical methods, antibacterial, antifungal, Corynebacterium diphtheriae, Diphtheria antitoxin, Immunization, Solapur

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