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Synergistic antimicrobial and antifungal activity of *Spondias mombin* extracts and conventional antibiotic and antifungal agents on selected clinical micro organisms

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Spondias mombin is a plant widely used in folkloric medicine. It has lots of potential as a medicinal plant. Most of these potentials are yet to be discovered. Its anti-infective property could be maximized either by using it alone or combining it with other plants and conventional antibiotics as a means of combating the problem of antibiotic resistance. The aim of the present work is to investigate the synergistic antimicrobial activity of various concentration of extracts of *Spondias mombin* and ofloxacin., investigate the synergistic antifungal activity of extract of *Spondias mombin* and fluconazole. Comparing the antimicrobial and antifungal activity of the various parts of the plant (leaf, bark and stem) and comparing the activity of the aqueous and crude ethyl acetate extracts of *Spondias mombin*. 30 organisms were used for the research. They include 10 typed, 10 isolated bacteria and 10 fungal isolates. The results obtained revealed a higher zone of inhibition against the pathogens tested. The findings from this work suggest that *Spondias mombin* contain some compounds that can enhance the effect of conventional antibiotics and antifungal agents in inhibiting the growth of pathogens.

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Molecular characterization of non-vaccine serotypes 11A, 15B/C and 23A of *Streptococcus pneumoniae* recovered from invasive diseases in Colombia

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Introduction: A total of 192 invasive *Streptococcus pneumoniae* isolates, from serotypes 11A, 15B/C and 23A (Not included in the conjugated vaccines), were collected in Colombia between 1994 and 2014, as part of the Network surveillance system for the causative agents of pneumonia and meningitis (SIREVA II).

Objective: To determine the molecular typing of invasive *S. pneumoniae* isolates, from serotypes 11A, 15B/C and 23A, in Colombia from 1994 to 2014.

Materials and Methods: The molecular characterization of the isolates was carried out through pulse field gel electrophoresis (PFGE) and Multilocus Sequence Typing (MLST).

Results: Serotype 11A showed one clonal group represented by ST62. Serotype 15B/C was composed of three groups associated with Netherlands 15_B-37 ST199 (28.75%), ST8495 (18.75.5%), and SLV (Single-Locus Variant) of ST193 (21.25%). Isolates from serotype 23A were gathered in three clonal groups, with 70.21% closely related to ST42, 17.02% to Colombia23_F ST338, and 6.38% to Netherlands15_B-37 ST199.

Conclusion: Clones Colombia23_F ST338 and Netherlands15_B ST199 covered more serotypes than previously found by other authors, including the serotype 23A. These analyses reveal the importance of capsular switching for spreading successful clones between non-vaccine serotypes that cause invasive pneumococcal disease.

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