



Antibacterial, Anti-virulence factors of *Pipercubeba* extracts on *Escherichia coli* and *staphylococcus saprophyticus* isolated from patient with urinary tract infection

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Abstract: Urinary tract infections (UTI) are between the most common infectious diseases and are among the most common human bacterial infections taking place in both the healthcare and community setting. The present study was carried out to evaluate the antibacterial activities and anti-virulence factors of *Piper cubeba* extract against *Escherichia coli* and *Staphylococcus saprophyticus* isolated from urine sample of UTI infected patient and identified with the help of colony characterization, gram staining and biochemical testing. In our study, Evaluation the antibacterial activities of three crude extracts was determined by agar well diffusion method. The findings of the present study indicate that the concentration of three extracts exhibit significant differences in their antimicrobial activities against *E. coli* but did not show any antimicrobial activity against *S. saprophyticus* so that excluded from tests of detection effect of extract on virulence factors. MIC determined by using agar well diffusion method, MIC of hot and cold aqueous extract were 25 mg/ml while 50 mg/ml to ethanolic extract. The hot aqueous extract of cubeba at concentration (20%) showed the best action as inhibitor agent against *E. coli*. By detection antivirulence factors of *Pipercubeba* extract against *Escherichia coli* the result showed that *P. cubeba* extract have effect on Serum resistance, Haemagglutination and adhesion Whereas exposure of *E. coli* to cubeba extract did not have any effects on reduced or inhibited the biofilm production. The result of antibiotic susceptibility test showed significant differences at (P between antibiotics that all isolates of *E. coli* were completely resistant (100%) to Ampicillin Whereas (94.2%) to Cefazidime, and (82.8%) to Cefotaxime, and (65.7%) to Tetracyclin, and (28.5%) to Imipenem, and (5.7%) of isolates were resistant to Gentamycin and Nitrofurantoin While (14.2%) of isolates show intermediate resistance to Amikacin, while effect of *P. cubeba* extract on antibiotic susceptibility show high resistance to all antibiotics used in this study except Gentamicin.

Key words : *Piper cubeba*, virulence factor, *Escherichia coli*.