Abstract

The therapeutic possessions of quite a lot of herbal plants have been renowned in the research in Indian journalism and the arrangements found to helpful in the treatment of diseases. Different antibiotics are available to cure different antibacterial diseases, but bacteria develop resistance against these antibiotics or they show side effects. Plants are among the significant and ordinary sources of potentially important new drugs. The Use of herbal products may provide the best choice to the wide use of synthetic antibiotics. The aspire of this study was to check the level of antibacterial activity of aqueous, organic solvents like petroleum ether, acetone and methanol extracts of *Anisomeles indica* (L.) O. Ktze., *Boswellia serrata* Roxb. ex Colebr., *Chlorophytum borivilianum* Sant. & Fernand, *Euphorbia hirta* L. and *Evolvulus alsinoides* L. towards seven bacterial isolates *Staphylococcus albus Staphylococcus aureus and Staphylococcus citreus as* Gram-positive and *Proteus vulgaris, Escherichia coli, Pseudomonas aeruginosa,* and *Klebsiella pneumoniae* as Gram-negative were isolated from hospitalized patients. The assay was done using method of disc diffusion and MIC by Inhibitory Concentrations in Diffusion (ICD) method. Hi-media antibiotics used in the study were Amoxicillin, Bacitracin, Ciprofloxacin, Gentamicin, Nalidixic Acid, Penicillin-G, Streptomycin, Tetracycline were used as standard reference drug. *In vitro* study, that methanol extract of *Anisomeles indica* (L.) O. Ktze., *Boswellia serrata* Roxb. ex Colebr., *Chlorophytum borivilianum* Sant. & Fernand, *Euphorbia hirta* L. and *Evolvulus alsinoides* L. medicinal plants have maximum inhibitory activity and very low MIC accompanied by respectively aqueous, acetone and petroleum ether extracts for both gram positive and negative organisms. The cram shows that plant extracts have wide antimicrobial activity. Therefore, these therapeutic plants the conventional application in the treatment of UTI infectious diseases.

The Medicinal plants become striking objects of advance new research during the period of new drug designing. In the pharmacology study to screening of novel active compound of medicinal plants would very expensive and time intensive, Molecular docking is probably the *in silico* technique which can be more able contrast in order to with *in vitro* or even *in vivo* approach. On this method, three dimensional structure becomes extremely important inside the actual molecular docking methods,

so we require a data source that provides information on three sizing constructions associated with chemical compounds through therapeutic plants. As a result, this study will make a ligand library that provides information with the 3D buildings of chemical ingredients associated with medicinal plants. *In silico* methods include pharmacophores, Database, QSAR, molecular docking, data mining, homology modeling, various data and network analysis tools that use a computer.

In this work has been carried out to calculate Cancer, TB, HIV, Malaria, Bacterial Infection, Infertility female and Infertility male action of *Anisomeles indica* (L.) O. Ktze., *Boswellia serrata* Roxb. ex Colebr., *Chlorophytum borivilianum* Sant. & Fernand, *Euphorbia hirta* L. and *Evolvulus alsinoides* L.

Medicinal plants having natural and its synthesize chemical compound belong to two research targets (Thymidine monophosphate kinase for TB and Mitogen-activated protein kinase for cancer) and six successful targets (Dihydropteroate synthetase for Bacterial Infection, HIV protease for HIV and Enoyl-ACP reductase for malaria, 3-beta-hydroxysteroid dehydrogenase for Infertility female and Cytochrome P450 3A4 for Infertility male). Then the ligand library compounds were examined for drug likeness and QSAR study. Molecular docking and ADME studies were carried out respectively with GOLD docking programmed, ADME Boxes and Toxtree software. In our *in silico* study, the consensus scoring method best scored hit ligand CID: 5281787 were selected for further study. The synthesize chemical compound having best score comparison to the natural chemical compound present in wild medicinal plant.

Key words: Medicinal Plants, Aqueous and organic solvents extract, Antimicrobial activity, MIC, Natural Compounds ligand library, Three Dimensional Structure, Drug likness, Docking, QSAR, ADME study.