CHAPTER 7

Chapter 7: Summary, Conclusion and Recommendations

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- *Terminalia pallida* is a herb belonging to the family Combretaceae. *Boswellia ovalifoliolata* (Burseraceae) is a narrow endemic and endangered deciduous tree species.

- Preliminary phytochemical studies of all extracts revealed the presence of alkaloids, carbohydrates, flavonoids, glycosides, tannins/phenols, proteins, steroids, saponins, triterpenoids, oils and fats in methanolic and n-Hexane extracts of *Terminalia pallida* Brandis and *Boswellia ovalifoliolata*.

- The METP, HETP, MEBO and HEBO demonstrated dose-dependent antibacterial and antifungal activities against one or the other organisms. *Terminalia pallida* Brandis and *Boswellia ovalifoliolata* methanolic root extract had produced good antibacterial activity against gram +ve and gram –ve bacteria and fungal strains.

- The pure compounds (TP-1 and BO-1) were tested for minimum inhibitory concentration and all the tested compounds have shown significant activity.
The METP, HETP, MEBO and HEBO demonstrated dose dependent manner reducing power and hydroxyl ion scavenging activity.

The acute toxicity study indicated that METP, HETP, MEBO and HEBO were devoid of major toxic effects.

The effect of methanolic and n-Hexane extracts of roots of *Terminalia pallida* Brandis and *Boswellia ovalifoliolata* significantly in 200,400 and 600 mg/kg p.o dosage, showed analgesic, anti-inflammatory activity (acute and chronic models).

The METP, HETP, MEBO and HEBO demonstrated significant and dose dependent increase in depleted tissue CAT and SOD levels by D-GalN/LPS and Ethanol induced hepatotoxicity.

The isolated livers from the various toxicant treated (D-GalN/LPS and Ethanol) animals exhibited increase in their physical parameters like liver weight and liver volume. Indeed, extract treated animals exhibited decrease in the values of above physical parameters as an indication of hepatoprotection.

Treatment with METP, HETP, MEBO and HEBO brought back the elevated levels of SGPT, SGOT, ALP, total protein, total and direct bilirubin, triglycerides (TG), total cholesterol (TC), HDL-Cholesterol (HDL-C), LDL-Cholesterol (LDL-C), VLDL-Cholesterol (VLDL-C) and ALP in DGal/LPS and Ethanol induced hepatotoxicity in rats near to health
levels. Histopathological observation revealed that treatment with GASD has reversed the hepatic damage by DGaL/LPS and Ethanol. Hence, the *Terminalia pallida* Brandis and *Boswellia ovalifoliolata* possesses hepatoprotective activity.

- Overall observed significant activity may be due to presence of active constituents present in roots of *Terminalia pallida* Brandis and *Boswellia ovalifoliolata*.

- The present work proposes detailed phytochemical and pharmacological evaluation of *Terminalia pallida* Brandis and *Boswellia ovalifoliolata* by in-vitro and in-vivo studies as given rise to a new dimension in the treatment of microbial infections, analgesic effect, anti-inflammatory effect and hepatic disorders. Further, the work could be extended to evaluate the effectiveness of the marker compounds for the treatment of analgesic effect, anti-inflammatory effect and liver disorders at its cellular level to elucidate its exact mechanism for the traditional claim. Also work can be extended to effect on human being.