ABSTRACT

The medicinal herbs are at most significant in treating ailments such as the liver diseases and immune alterations. In this study, evaluation of hepatoprotective activity and immunomodulation is done against Azathioprine induced liver toxicity and immunosuppression. Identification of the plants has been done and extracted and fractions are isolated. Fruits of *Canavalia Gladiata*, roots of *Berberis Vulgaris*, frutis of *Zizyphus Jujuba* were selected for the study. Preliminary phytochemical studies were performed and chemical components of extract and its fractions. The methanolic extract of *Canavalia Gladiata* (MECG), Ethanol extract of *Berberis Vulgaris* (EEBV), Methanolic extract of *Zizyphus Jujuba* (MEZJ) and Chloroform fraction (CLF), ethyl acetate fraction (EAF) of the extracts had been evaluated for the hepatoprotection against azathioprine induced toxicity and stimulation of immune response against immunosuppression. The extracts dose was identified by using toxicity studies and determined for activity. The optimum safe concentration was 100mg/kg, 200 mg/kg body weight for the extracts and their fractions. Hepatoprotectivity is evaluated by estimating the biomarkers like SGPT, SGOT, ALP, and Bilirubin in serum and liver tissue homogenate and antioxidant status was evaluated in liver tissue homogenate for SOD, GSH, and Catalase. The immunomodulatory activity of the extracts had been done by using the Delayed hypersensitivity, Neutrophil adhesion, phagocytic index,
immunoprophylactic effect. The effective dose in all the extracts are MECG, EEBV, and MEZJ is 200mg/kg. and chloroform fraction is found to be more effective. The extract and fraction of Canavalia Gladiata had shown better results than other two plant extracts and fractions. The immune stimulation is shown moderately by the aqueous extract also, in comparison with the normal and toxic group. Chloroform fraction showed the presence of more percentage of flavonoids and had showed better hepatoprotection and immune stimulation and can be inferred that the falvonoid content in extracts is responsible for the activity. The poly herbal preparation which is combined mixture of chloroform fractions in three plants had showed better activity in comparison to individual plant extracts.

**Expected Outcome**

The proposed research work is aimed in expectation to identify the suitable preparation of extract and its optimum dose for plant extracts and there fractions and usage for treating ailments as a part of herbal healing lore.