ABSTRACT

Objective:
To evaluate the effect of aqueous leaf extracts of Apium graveolens (ALAP), Allium amperfolium (ALAA) and Lactuca sativa (ALLS) and polyherbal extract (PHE) on inflammation related activity, oxidative stress and hepatotoxicity in Wistar-albino rats.

Materials and Methods:
The cancer prevention agent action of chose separates estimated regarding cell reinforcement movement and calming action in vitro. Cancer prevention agent movement of the ALAP, ALAA and ALLS was dictated by utilizing superoxide, hydroxyl, H$_2$O$_2$, nitric oxide and DPPH radical rummaging exercises utilizing ascorbic corrosive as standard. Furthermore, the calming action was assessed by utilizing HRBC layer adjustment measure and egg white’s denaturation test was performed utilizing diclofenac as standard. The useful gathering investigation of ALAP, ALAA and ALLS was led by Fourier change infrared spectrophotometer (FTIR) and thermo soundness was seen by utilizing Differential Scanning Calorimetry (DSC). Carrageenan instigated paw was utilized to actuate the irritation. The paw thickness was estimated at various time interims. Toward the finish of 5 hrs all the treatment assembles creatures were relinquished. The paw levels of SOD, CAT, GSH and MDA were assessed as a marker of oxidative pressure. The professional incendiary markers, for example, Tumor necrotic factor-α, Interleukin-6 and C-reactive protein levels were evaluated in paw homogenates. At last, histopathology of paw was directed in all the treatment gatherings. To assesss the HPA was prompted by utilizing paracetamol as an initiating operator. After the 14 days treatment with the chose plants extricates and polyherbal removes were inspected for liver chemicals (SGOT, SGPT and ALP). The above-mentioned specific liver levels of SOD, GSH, CAT and MDA were assessed as a marker of oxidative pressure. The master incendiary markers like Tumor necrotic factor-α, Interleukin-6 and CRP levels occur evaluated in liver homogenates. At long last, histopathology of liver was directed in all the treatment gatherings.
**Results:**
The SPEs and poly herbal extracts showed significant dose dependent rummagingspecified task against retrieved superoxide, hydroxyl, H$_2$O$_2$, NOx and DPPH radicals are differentiated and found similarity with ascorbic acid. The SPEs and poly herbal extracts showed significantly activity against membrane stabilization and denaturation of protein at certain point of contact with a concentration range of 100-500µg/ml when it is compared with diclofenac. Also, SPEs and polyherbal extracts showed significant dose dependent manner reduction of paw thickness into carrageenan reinforced edema during 1,2,3,4 and 5 hrs. The SPEs and poly herbal extracts showed significant (p<0.05) elevation of reduced oxidative stress markers (SOD, CAT, GSH) and reduction of MDA levels in paw homogenates into carrageenan reinforced edema in all kinds of rats. Then, SPEs and poly herbal extracts showed subsequent reduction of Tumor necrotic factor-α, InterleukinL-6 and CRP at the designated and countable dose dependent rage. The histopathological studies indicating ameliorated structure of paw tissue to normal in carrageenan induced inflammation. The SPEs and poly herbal extracts showed significant reduction of elevated liver enzymes (SGOT, SGPT and ALP) in PIHT in rats. The treatment groups showed convincing (p<0.05) growth in reduced oxidative stress markers (SOD, CAT, GSH) and reduction of MDA levels in liver homogenates in the paracetamol reinforced hepatic destruction in the specimen which are rats. The SPEs and poly herbal extracts showed subsequent reduction of TNF-α, IL-6 and CRP in a countable dose dependent rage in liver homogenates. The histopathological studies indicating that the selected plane extracts and polyherbal etracts showed regeneration of hepatocytes and reduction of cetrilobular necrosis caused by the paracetamol induction.

**Conclusions:**
The present investigation concluded that the SPEs and the poly herbal extracts showed pharmacological activity against the oxidative stress, inflammation and hepatotoxicity may be because of the 2 xistence of phytochemicals like
flavanoids, steroid, saponins, phenols, steroids and anthocyanins. Among all SPEs that *Apium graveolens* showed better pharmacological actions compared to all the extracts. The PHE showed significant effect on oxidative stress inflammation and hepatotoxicity among all the treatment groups. Further these extracts and poly herbal formulation can be patented and commercialized.