The effect of *Echinacea purpurea* hydro alcoholic extract on the blood parameters in mice

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**Introduction:** Purple cone flower is a plant with scientific name *Echinacea purpurea* that belongs to *Echinaceae* family. This plant has many pharmaceutical effects which one of the most important uses is immunostimulating. This research attempts to study the effects of *Echinacea purpurea* hydroalcoholic extract on the blood parameters in little laboratory female mice (Balb/c species).

**Material and Methods:** In this research, 48 mature female mice were divided randomly into 6 groups. The control group did not receive any extract, the placebo group received 0.5 cc normal saline every other day and 4 treatment groups received extract with (50, 100, 200, 300) mg/kg/2day doses that was used interperitoneal injection. Then the blood samples were taken from the whole mice. The results were analyzed SPSS in the case that *p*<0.05.

**Results:** The study of blood parameters showed that the extract increased markedly in the total number of white blood cells in each 4 groups in comparison to control group. The number of neutrophiles decreased significantly in each 4 groups in comparison to control group, but the significant differences weren't noticed in monocytes. The number of red blood cells increased significantly in groups 1, 2 in comparison to the control group, but in groups 3,4 there is no significant differences. In this manner, this extract was caused change in the mean of hematocrite, hemoglobin and the index of red blood cells (MCV, MCH, MCHC) there is no significant differences; Moreover, the number of platelet has a meaningful increase in group 1 in comparison to control group, and in groups 2, 3, 4 have decreased significantly.

**Discussion:** The extract of *Echinacea purpurea* can support the immune system by increasing the number of white blood cells and can be effective in hematopoiesis by increasing the number of red blood cells.

**Keywords:** *Echinacea purpurea*, blood parameters, mice.

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