**Title:** Investigation of anti-inflammatory effects of the Milk thistle (Silbium marianum L.) extract on mixed glial cells of rat

**Abstract:** Inflammation plays a key role in some neurodegenerative diseases that can be treated by using medicinal plants. Milk thistle (Silbium marianum L.) is a medicinal plant, that its alcoholic extract contains flavonoids, such as silymarin which has antioxidant, anti-bacterial and anti-inflammatory effects. Mixed glial cells are non-neuronal cells in the brain that contain microgelia, astrocytes and oligodendrocytes. They are responsible for the safety and supporting of the CNS. In neurological diseases, microgelia induce inflammation with the secretion of inflammatory factors such as pro-inflammatory cytokines and neurotoxins. Subsequently they have ability to control diseases. One of these molecules is nitric oxide (NO) that plays an important role in inflammation and is a major factor in assessing the degree of inflammation. In this study, we investigated anti-inflammatory effects of the extract on reduction of the NO in mixed glial cells. Neonatal rat primary mixed glial cells were isolated from new born rat (1-2 years old) cultured in DMEM supplemented with 20% fetal bovine serum (FBS). In 14th day of the culture, cells were isolated with trypsin and cultured in 96-well plates, and then treated with LPS and different concentrations of extract. The experiment carried out by using Griess reaction test to evaluating NO production in the cells. Different concentrations of extract was performed in three replications and analyzed by SPSS software. The results that analysed by SPSS were significant and revealed that silymarin has anti-inflammatory effects on the cells, and reduced the amount of NO compared with positive control (LPS).

**Silbium marianum, anti-inflammatory, silymarin, CNS**

**Presentation:** Poster