

Effect of *Matricaria chamomilla* L. on blood glucose and glycosylated hemoglobin in female fertile diabetic rats

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Background and Aims: Chronic high blood glucose in diabetes will subsequently produce reactive oxygen species. The free radicals causes complications and specially an important reason for increasing malformations ratio of fetus. Good control of diabetes can reduce complications during pregnancy, and has been shown that antioxidants have an important role in reducing these complications. *Matricaria chamomilla* is a well known plant for antioxidant, anti-inflammatory and anti-hyperglycemia effects. In the present study were investigated possible anti diabetic activity of the ethanolic extract of aerial part of the *Matricaria* in streptozotocin induced female fertile diabetic rats.

Methods: The animals were divided to 5 groups, diabetic and control rats were administered 100,300,500, mg/kg chamomile extract. Diabetes was induced by intraperitoneal injection of STZ (45 mg/kg, dissolved in citrate buffer, 5 mmol/ L; PH 4.5). Mating condition was prepared by putting male rats and diabetic female rats together. Vaginal plaque mentioned as a positive sign of pregnancy and treatment started with extract or vehicle from 1th to 17th day of gestation Blood .by gastric gavages ,Glucose levels were monitored a week after injection of STZ .days ¹glucose was measured during th day after VP p¹ ossitive sign and at 17th day , HbA1C were monitored at 17th day.

Results: Administration of *Matricaria* in diabetic rats significantly decreased the level of blood glucose and HbA1C after 17th days ($p \leq 0.01$). Among the examined doses, the most effective dose of *Matricaria* extract was 500 mg/kg. Percent reduction in HbA1C, in groups receiving 100, 300 and 500 mg/kg dose of extract compared to the diabetic group is 10.28, 20.30, 28.9 percent respectively.

Conclusions: The results suggest that *Matricaria* extract can show decrease glucose level and HbA1C in female diabetic rats.

Keywords: *Matricaria chamomilla*; Antidiabetic; HbA1C