

عنوان مقاله:

Inhibitory potential of pure isoflavonoids, red clover, and alfalfa extracts on hemoglobin glycosylation

محل انتشار:

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خلاصه مقاله:

BACKGROUND: Non-enzymatic glycosylation of hemoglobin is complications of diabetes. Antioxidant system imbalance can result in the emergence of free radicals' destructive effects in the long-term. Red clover (*Trifolium pratense* L.) and alfalfa (*Medicago sativa* L.) contain isoflavonoids and have antioxidant activity. This experimental study evaluated the inhibitory activity of pure isoflavonoids (daidzein and genistein), red clover and alfalfa extracts on hemoglobin glycosylation. **METHODS:** This study was performed in Iran. Stock solution of hydroalcoholic extracts of red clover and alfalfa in concentrations of 1 and 10 g/100 ml and stock solution of daidzein and genistein in concentrations of 250 ng, 500 ng, 25 µg and 250 µg/100 ml were prepared as case groups. Control group was without hydroalcoholic extracts of plants and pure isoflavonoids. All experiments were performed in triplicate. Hemoglobin was prepared and antioxidant activities were investigated to estimate degree of nonenzymatic hemoglobin glycosylation. **RESULTS:** There was no significantly difference between used extracts (extract of red clover and alfalfa) and control of the hemoglobin glycosylation but using daidzein ($P = 0.046, 0.029$ and 0.021 , respectively) and genistein ($P = 0.034, 0.036$ and 0.028) significantly inhibited ($P < 0.05$) this reaction in 25 µg/100 ml, 250 ng and 500 ng/100 ml concentrations when compared to control. in 25 µg/100 ml, 250 ng and 500 ng/100 ml concentrations percentage of inhibition were 32, 80 and 74.5% respectively with used of daidzein and were 21, 83 and 76% respectively with consumption of genistein. **CONCLUSION:** According to decrease of glycation of hemoglobin with isoflavonoids, two used plant in this study containing isoflavonoid may be useful on diabetes

کلمات کلیدی:

Glycosylation, Genistein, *Medicago sativa*, *Trifolium*

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