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**Economics Home Department**  
**Faculty of specific education**  
**Ain- shams university**

## **The Effect of Supplementation with Quercetin, catechin and Rich Food of Them in Immune System in Experimental Rats**

To complete obtaining to the M.S.C degree of Specific education,  
Home Economics Department, specialization in Nutrition and  
Food Science

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

فَاللَّهُ بِحَانِكَ لَاعْلَمُ لَنَا الْإِمَامُ عَلَمُنَا  
إِنِّي أَنْتَ الْعَلِيمُ الْحَكِيمُ

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# **APPROVAL SHEET**

## **The Effect of Supplementation with Quercetin, catechin and Rich Food of Them in Immune System in Experimental Rats**

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# ABSTRACT

## **The Effect of Supplementation with Quercetin, Catechin and Rich Food of Them on Immune System in Experimental Rats**

**Aim of the study:** to assess the effect of Quercetin (Q), catechin (CT) and rich food of them supplementation on immune system in rats.

**Materials & Methods:** 36 Rats were allocated in 6 groups, first group (6 rats) served as (-ve) negative control group and fed on basal diet, while main (30 rats) drank polluted water with cadmium chloride (CD) 40mg/kg for 40 days (to induce immunity inhibition) that was fed the basic diet only. Then rats were divided equally to five groups (2, 3, 4, 5, 6) and fed on basal diet only (positive control) or with Q commercial at 45mg/kg swallowed orally, Red onion (RON) powder as a natural source Quercetin (Q) by 70.3 g/kg it equal 45mg/kg Q and GT powder as natural source CT by 25.6 g/kg it equal CT 7500µg/kg CT respectively, treatments were for 21 days as mentioned.

**Results:** Treatment with Q or CT reduced RBC, HGB, HCT, MCHC, PLTs and LYM deficiency up to the natural or commercial source to approach the negative control level (Healthy group). While decreased in the rate of MCV compared to the control positive. Also Treatment with Q or CT reduced urea, u.acid, creatinine, urea, u.acid, creatinine, GOT, GPT and T.P and a decrease in the rate of SOD, GPX and CT, while they showed increased in the IgG.

**Conclusion:** Consumption Q and CT from natural and commercial sources is very useful as its protective effect from immunity disorders has and reduce deleterious effects of cadmium chloride in rats.

**Keywords:** quercetin, catechins, immune system, cadmium chloride, feed intake.

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