



# Effects of royal jelly supplementation on regulatory T cells in children with SLE

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## Abstract:

**Background and objective:** To our knowledge, no previous studies have focused on the immunomodulatory effects of fresh royal jelly (RJ) administration on systemic lupus erythematosus (SLE) in humans. Our aim was to study the effect of fresh RJ administration on the disease course in children with SLE with some immunological markers (CD4<sup>+</sup> and CD8<sup>+</sup> regulatory T cells and T lymphocytes apoptosis). **Methods:** This was an open-label study in which 20 SLE children received 2 g of freshly prepared RJ daily, for 12 weeks. **Results:** The percentages of CD4<sup>+</sup>CD25<sup>+</sup>high FOXP3<sup>+</sup> cells (CD4<sup>+</sup> regulatory T cells) and CD8<sup>+</sup> CD25<sup>+</sup>high FOXP3<sup>+</sup> cells (CD8<sup>+</sup> regulatory T cells) were significantly increased after RJ treatment when compared with baseline values. Apoptotic CD4 T lymphocytes were significantly decreased after RJ therapy when compared with baseline values and the control group. **Conclusion:** This is the first human study on the effect of RJ supplementation in children with SLE. Our results showed improvements with 3-month RJ treatment with regard to the clinical severity score and laboratory markers for the disease. At this stage, it is a single study with a small number of patients, and a great deal of additional wide-scale randomized controlled studies are needed to critically validate the efficacy of RJ in SLE.

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