

## The effect of oral supplementation of *Spirulina platensis* microalgae on hematological parameters in Streptozotocin-induced diabetic rats

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**Background:** It has been shown that diabetes can influence hematological parameters and on the other hand, some microalgae's, i.e. *Spirulina platensis*, could be improved hematological parameters in non-diabetic rats. The purpose of this study was to evaluate the effects of *Spirulina platensis* microalgae (SPM) on hematological parameters in Streptozotocin-induced diabetic rats.

**Methods:** The rats, 2.5-month-old male, were grouped in two sections (healthy and diabetic) and orally received 15 and 30 mg/kg of body weight the SPM for 4 weeks. Control rats were treated with distilled water. Experimental groups were as follows; SPM 15 in healthy rats (SH15), SPM 30 in healthy rats (SH30), SPM 15 in diabetic rats (SD15), SPM 30 in diabetic rats (SD30), healthy control (HC) and diabetic control (DC). At the end of trial, blood samples were collected for measurement of red blood cell (RBC), white blood cell (WBC), mean corpuscular hemoglobin concentration (MCHC), mean cell volume (MCV) and packed cell volume (PCV).

**Results:** On the basis our findings, diabetes decreased RBC, MCHC, PCV, MCV and WBC ( $P < 0.05$ ), but oral supplementing of SPM, 30 mg/kg of body weight, could improve RBC, WBC, MCHC, PCV and MCV in diabetic rats ( $P < 0.05$ ). **Conclusion:** Oral supplementing of SPM, at high levels, seems to be an efficient way against negative effects of diabetes on hematological parameters.

**Key words:** Diabetic rats, Mean globular volume, Red blood cell, *Spirulina platensis*, White blood cell