# Evaluation of the Antidiabetic and Healing Honey from southern Algeria. "*In vivo"* study

Noureddine Djebli and Rabia Eladaouia Taleb

*Pharmacognosy & Apiphytotherapy Laboratory, Mostaganem University –Algeria.*
djebli_n@yahoo.fr

**Abstract**

Honey have long been used in traditional medicine, but their health benefits have been explained in recent decades, when the scientific world became concerned with tests and thus explained their physicochemical characteristics that show their qualities and their origins. The present study aims to demonstrate whether honey an antidiabetic, and wound healing effect in rats. Analysis of phenolic compounds was determined by HPLC and in vitro antioxidant activity was determined by two methods free radical scavenging (DPPH) and iron reduction (FRAP). Antidiabetic activity was evaluated in Wistar rats made diabetic by injection of streptozotocin (STZ) for 2 months. The wound healing capacity of honey was measured at the level of wounds in diabetic and non-diabetic rats.

The analysis of the results of the physico-chemical parameters showed that the Algerian Sidr honey meets international standards. This honey is made up of 37.27% of fructose, 29.23% of glucose and 6.39% of sucrose and a total absence of maltose. Rich in polyphenols and flavonoids (47.35 ± 3.35 mg GAE / 100 g and 1.20 ± 0.20 mg QE / 100 g, respectively). This richness in polyphenols has given Sidr honey significant antioxidant activity. Resveratrol, chrysin, protocatechoic acid, caffeic acid phenyl ester (CAPE), and rutin were the major phenolic compounds detected by HPLC. Oral administration of this honey at doses of 250,500 and 1000 mg / kg in our experimental model of diabetes has shown a hypoglycaemic effect and leads to appropriate changes in lipid, hepatic and even pancreatic histology profiles. This honey has significant wound healing activity in diabetic and non-diabetic rats.

To conclude that the honey studied have antioxidant and anti-diabetic activities.

**Keywords:** honey, antioxidant, anti-diabetic, wound healing, HPLC.