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Camel milk; A unique superfood for diabetic patients

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Abstract

There are various anti-diabetic drugs to treat diabetes but they have several negative effects on the patients' health. Although the proper treatment of diabetes includes insulin injection continuously to maintain blood glucose level, but nowadays, the researchers following some natural alternative healings for insulin. Camel milk contains insulin like proteins, which does not form coagulum in the acidic condition of stomach, can be absorbed from the intestine and may be an effective alternative for insulin to treat type 1 and 2 and gestational diabetes. Camel milk is believed to be a suitable hypoglycemic agent in improving long-term glycemic control in experimental animals and patients with diabetes. The incidence risk of diabetes in people who regularly consume camel milk, is much lower than those who don't use camel milk. Camel milk may prepare about 60% of the insulin in diabetic patients and reduce blood sugar and required insulin dose about 30-35% in type 1 diabetes patients. Raw camel milk has immune- modulatory effects on beta-cells of the pancreas, increase insulin secretion, reduces required insulin and insulin resistance and improves the glycemic control in type 1 diabetes patients. Camel milk improves the diabetes complications such as obesity, inflammation, wounds and oxidative stress damages. Lactoferrin of camel milk has immune- modulatory effects on pancreas beta-cells and reduces required insulin doses in diabetes 1 and 2 patients. Obviously, camel milk effects on regulating of blood glucose are including; effect on insulin receptor function, signaling and glucose transport in the insulin-sensitive tissues, effect on the growth and activity of the pancreatic beta-cells in insulin secretion and negative modulation on the glucagon receptor. In most of the clinical trials, the favorable effects of raw camel milk on diabetes mellitus observed by the recommended dose 500 mL/day for 3 months which also improve risk factors in diabetic patients. It appears that more scientific studies are needed to confirm the effectiveness of processed and camel milk powder on diabetes cases.

Keywords: Insulin like protein, diabetes, camel milk

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Biography

Taherah Mohammadabadi finished her PhD in Iran and Australia and has been as a researcher at University of Queensland, Australia; she has attended and presented her works in different conferences in some countries. She is working as academic member, researcher and teacher since 11 years ago in Faculty of Animal Science and Food Technology, Agricultural Sciences and Natural Resources University, Iran. She has been as supervisor for 10 PhD students and more than 30 Msc students. She has over 200 published publications, conferences presentations, and scientific projects; Also, some books on phytochemicals and microbes, bioactive components in the livestock milk; milk lactoferrin and health, anti-diabetes properties of camel milk. She is member of the editorial board and reviewer of some international and national journals.