



# The Personalized Lifestyle Model for the Patients with Type 2 Diabetes Mellitus during Ramadan Fasting

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## Problem Statement

There are about 1.5 billion Muslims in the world. This makes 25% of the world's population. Koran is The Holy Book for Muslims all over the world the prescriptions of Koran are the laws by which every Muslim should live. The Koran describes the ethical norms of moral human behavior. It is teaching discipline and restraint, recalls the state of the poor. Fasting observance is one of the essential rules of conduct for every Muslim. Fasting during the holy month of Ramadan is the sacred duty of Muslims. According to the covenants of the Holy Koran a person should fast but the fasting should not harm his/hers health.

Patients with diabetes have a high risk of health deterioration caused by a sudden change of diet, refusal to take hypoglycemic medications, restricting fluid intake and etc. It can lead to such serious complications as dehydration, diabetic ketoacidosis, ketoacidosis and hyperosmolar coma the development of acute thrombosis, severe hypoglycemia. It is very important that both doctors and patients understand these risks.

## Methodology and Theoretical Orientation

In the study 78 patients with T2DM (40-65 years old) were observed. They fasted during Ramadan and attended School for patients with T2DM under

therapeutic module "Ramadan and T2DM". Patients took Sitagliptin (Januvia® Sitagliptin 100 mg) and Metformin 1000 mg during Iftar and 48 patients took herbal baths 3-4 times a day (fir-needles, lavender, yarrow, oregano, wormwood with the addition of pine buds).

## Results

The leading cause of hyperglycemia is dehydration which occurs with limited fluid intake during Ramadan fasting. Moreover a thickening of blood occurs which causes thrombosis. The levels of chlorine, residual nitrogen, and urea are increased in blood stream. This leads to marked changes in the central nervous system and brain edema. Other symptoms and complications include increased blood viscosity, blood thickening, thrombosis, hemorrhage and increased risk of stroke. One of the methods to combat dehydration of patient's body during Ramadan is taking bath procedures.

Patients with T2DM fasting in the 14-17hour span can get themselves into a life-threatening situation especially during summer season. On one hand sugar is secreted on the surface of the skin which clogs the pores and breaks the cellular respiration and on the other hand the body suffers from dehydration. Skin is involved in the regulation of water-electrolyte balance the metabolism of hormones and biologically active substances (melanin, vitamin D, etc.) thermoregulation.

In this case herbal baths (with various herbs and oils) can provide a good therapeutic effect is provided of course there is an allergy. Besides medical benefits, water can also act as a stress reliever and improves mood, because during this procedure, the level of stress hormones (adrenaline, norepinephrine, cortisol) in the blood stream is decreasing. Favorable effect on the skin and the body as a whole has an herbal bath, thanks to vitamins, microelements, phytoncides (substances that kill bacteria). In addition inhaling the aromas of herbs calms the nervous system helps with cold and flu.

In order to restore the nervous system you can take a bath with the addition of a collection of herbs - valerian, oregano, lime flowers and marigold, Saint-John's-wort, Chamomile, herbs yarrow, oregano, wormwood with the addition of pine buds.

### Conclusion and Implementation

The personalized nutritional model for the patients with T2DM during Ramadan includes nutrition with saponin and insulin-containing food, cumin oil, mineral water with hydrosulphate and hydrocarbons in combination with herbal baths. Those recommendations should be included in the therapeutic education at T2DM-Schools. During the observation 48 patients taking herbal baths and following the nutritive regime had no complications. While among the patients who did not prevent dehydration, there were 2 cases of interruption of fasting due to cardiovascular episodes [1-6].

Herbal baths can play a huge role in preventing dehydration of patients with T2DM during Ramadan fasting and are strongly advised. Allergy of patient for such herbs as coniferous, wormwood, wild rose, mint, lemon, chamomile, rose, celandine, nettle and etc. should be checked before the procedure.

In conclusion I would like to note that according to the precepts of the Holy Koran, one must fast, but not causing harm to his/hers health.

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