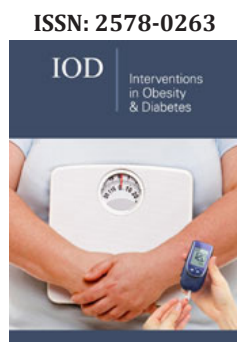


Fasting in Ramadan and Diabetes

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Abstract

During Ramadan, Muslim community fasts from dawn till sunset. In healthy adults, fasting has no proven harms rather have benefits. Diabetes is a metabolic disorder and may have some consequences while fasting. The aim of our review was to determine, whether or fasting in Ramadan causes any complications in diabetes patients and to search ultimately the advice for management of fast while being diabetic. Ramadan fasting is very much acceptable in patients having type-2 diabetes which is well managed. Fasting may be allowed to type-1 diabetes patients with suggestion to monitor their blood glucose level several times a day.

Introduction

Islam has five pillars. Observing Fast in Ramadan is one of the five pillars for adult Muslims worldwide. During fast, eating and drinking is prohibited which is not proven to be harmful for healthy persons [1]. A large survey revealed that 42.8% type-1 diabetes and 78.7% type-2 diabetes patients fasted for two weeks [2]. Only few review articles are available on this concern. Original studies were included in this review including control period: i.e. data from control period consisting before and after Ramadan. Studies without involving controls were excluded. Most papers report survey data but very few report original clinical assays. One thing to account for is that Ramadan is a lunar month and happens 10-11 days earlier in every coming year. Which means, after each 9 years, it occurs in different season. The environmental conditions, temperature and length of fasting changes accordingly. This duration was not always cited in most of the studies.

Ramadan fasting: Effects on glycemic status and other biochemical parameters

Fasting may have increased risks for hypoglycemia due to daytime fasting [3,4], an increase in frequency of hypoglycemia has been reported during fasting in Ramadan both in type-1 and type-2 diabetes patients [5]. According to some studies Ramadan fasting has been reported to have no effect on glycemic status [2-4,6-11]. There were no significant changes in rhythm of blood glucose in type-2 women [9] Several studies have demonstrated that HbA1C values had no significant change during Ramadan fasting [4,6,7,11-14]. Few studies have reported a decrease in HbA1C level too [12,15,16]. There is significant decrease in insulin resistance in males, but it decreases in both genders [14]. Several studies have reported a decrease in triglycerides [4,17]. Some studies have shown no significant change in triglycerides, HDL and LDL levels [9,18,19].

Patients on oral hypoglycemic agents

Several studies have reported on significant effect on glycemic status in type-2 diabetes patients who are treated with OHA [6]. Few studies have reported an increase in hyperglycemic status who took less dose [15].

Patients on insulin treatment

The effect of insulin was observed in patients with type-1 diabetes observing fast. Glycemic control showed improvement in lispro-insulin as compared to human origin insulin [20].

International Diabetes Federation (IDF) and diabetes UK guidelines for Ramadan

The IDF and diabetes UK have provided proposed three categories of risk for Muslim patients observing Ramadan fast. Those classified into high risk are advised not to fast. Patients on insulin need to make adjustment of dosage. Fasting needs to be interrupted if blood glucose level falls below 70mg/dl. They provided following recommendations: Screen people for diabetes using locally validated screening methods e.g. HbA1C, blood glucose level. Try to prevent prediabetes with lifestyle modification and increased physical activity. Glucose monitoring is useful during Ramadan. Patients with diabetes should be referred to diabetes training and awareness programs. Overweight and diabetic patients should reduce caloric intake and prefer high fiber diet. Use physician recommended medication and keep proper follow-up [21-23].

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