

Attitude of patients with diabetes mellitus toward fasting Ramadan in Basrah, Iraq

Abstract

Background: Ramadan fasting among diabetic patients is common despite their risk.

Aim: The aim of this study was to know the attitude of patients with diabetes mellitus toward fasting Ramadan in Basrah.

Methods: The study was conducted at Faiha Specialized Diabetes, Endocrine and Metabolism Center (FDEMC) in Basrah for the period from March to May 2012. Two hundred ninety-five patients were selected to participate in this study. Data collection was obtained from individually held face-to-face interviews between all patients and the same investigator using a standardized questionnaire.

Results: Of 295 patients included, the mean age was 47.36±15.0 years (65.4% females). About 49.4% of the patients were on insulin with or without oral antidiabetic drugs (OAD) and 46.4% on OAD alone. Those who fasted last Ramadan were 188 (63.7%) patients. Patients consulted their doctors to fast prior to Ramadan were 133 (70.7%). Of them only 46 (34.5%) patients were having permission to fast and 87 (65.5%) patients fasted against medical advice. Almost all those who fast were for a religious reason and not to other cause like stop medications or insulin.

Conclusion: Two third of diabetic fasted the last Ramadan. Majority of them consulted their doctor before fast. But two third fasted against medical advice.

Keywords: Ramadan fasting, diabetes mellitus, Attitude

Volume 6 Issue 1 - 2018

Abbas Ali Mansour,¹ Nadeem Raheem Shiaa,²
Narjis AH Ajeel³

¹Department of Medicine, Basrah College of Medicine, Iraq

²Basrah Health Directorate, Iraq

³Department of Community Medicine, Basrah College of Medicine, Iraq

Correspondence: Abbas Ali Mansour, Professor of Medicine, Consultant Endocrinologist, Faiha Specialized Diabetes, Endocrine and Metabolism Center (FDEMC), Chair Diabetes, Endocrine, and Metabolism Division, Department of Medicine, Basrah College of Medicine, Hattin post office, P.O Box: 142, Basrah-61013, Iraq, Tel 009647801403706, Email aambaam@gmail.com

Received: October 21, 2017 | **Published:** January 04, 2018

Introduction

Ramadan is the ninth month of the Muslim calendar, and 1.9 billion Muslims of the world celebrate their holiest month of Ramadan each year. It is the month of fasting in the Muslim calendar when it is believed the Holy Quran (the holy book of Muslims) was sent down from heaven as a guidance unto men a declaration of direction, and a mean of salvation, fasting is one of the five pillars of Islam. Fasting during Ramadan, a holy month of Islam, is an obligatory duty for all healthy adult Muslims.¹

It's a lunar-based month, and its duration varies between 29 and 30 days. Its timing changes with respect to seasons. Depending on the geographical location and season, the length of the daily fast may range from a few to more than 20h. Muslims who fast during Ramadan must abstain from eating, drinking, use of oral medications, and smoking from predawn to after sunset; however, there are no restrictions on food or fluid intake between sunset and dawn.^{2,3} Fasting Ramadan increased the risk of both hypoglycemia and hyperglycemia together with diabetic ketoacidosis and dehydration with risk of thrombosis.⁴

The diabetes care in Ramadan literature is largely new. The first recommendation was dated back to 2005.⁴ In that recommendation; they avoid the use of the terms "indications" or "contraindications" for fasting because fasting is a religious issue for which patients make their own decision after receiving appropriate advice from religious teachings and their health care providers. However, they emphasize that fasting, especially among patients with type 1 diabetes mellitus (T1DM) with poor glycemic control, is associated with multiple risks. This recommendation was updated in 2016 by International Diabetes Federation (IDF), in collaboration with the Diabetes and Ramadan (DAR) International Alliance.⁵ This IDF sponsored guideline was

comprehensive and the most representative recommendation for fasting during Ramadan including consultation for the patients and practical recommendation were the Ramadan fasting should not be attempted. Over the past decade, Ramadan will fall during the summer months in Iraq with the temperature reaching to 50 Celsius at midday, thus increasing the number of fasting hours and raising the risk of adverse effects for diabetic patients wishing to fast. Disregarding religious beliefs may create a barrier in the global process of cross-cultural therapeutic education. Whether diabetic Muslim patients ask their physicians about fasting and follow their medical advice is unknown.⁶ The aim of this study was to know the attitude of patients with diabetes mellitus toward fasting Ramadan in Basrah.

Patients and methods

Setting

The study involves patients with diabetes mellitus (DM) who attended the Faiha Specialized Diabetes, Endocrine and Metabolism Center (FDEMC) in Basrah during three months period extending between the March to May 2012 (7-9 months after the 2011 Ramadan). The Center is tertiary care receiving patients with diabetes mainly from Basrah.

Design

A cross-sectional study was done on 295 patients with type 2 diabetes mellitus (T2DM) and T1DM who attended the Center for management.

Sampling and sample size

The patient interviewed were diagnosed previously by a specialist, out of the total of 300 diabetic persons who were eligible for the study,

five patients refuse to give information about their disease leaving 295 to be included in the study.

The tools of the study

The data relevant to the study purpose were obtained through a particular questionnaire forum prepared by the investigator and approved by the supervisor. The questionnaire has the following nine items:

- Personal characteristic: include name, age, gender, occupation, education.
- Type of diabetes and duration.
- Type of treatment whether lifestyle, oral antidiabetic drugs (OAD), insulin therapy or both (insulin and OAD).
- Type & frequency of OAD and frequency of insulin injection.
- History of chronic hypertension, myocardial infarction and cerebrovascular accident (CVA).
- History of fasted last Ramadan, the number of days fasted, the number of days of the menstrual cycle in the female population.
- History of doctor's consultation before the trial of fasting in last Ramadan.
- The permission of physicians.
- Causes of fasted in last Ramadan (2011), whether for religious cause or to reduce the frequency or stop insulin intake.

Data collection

The researchers visited the FDEMC in Basrah on two selected days per week. For inclusion, patients had to be Muslim with either T1DM or T2DM and able to reply to an oral questionnaire and passed the 2011 Ramadan since the diagnosis of their disease. Hypertension in diabetic patients was confirmed if systolic BP was equal or more than 140mmHg and or diastolic BP equal or more than 90mmHg on two occasions separated by at least one day or more, or on medications for hypertension.⁷

Data analysis

The data were coded and analyzed using the statistical package for social sciences (SPSS) for Windows version 15 (SPSS inc. 1995). Quantitative data were presented as means±standard deviation (SD). Qualitative data were expressed as the frequency.

Results

Patient's characteristics are seen in Table 1. Of 295 patients enrolled in this study, the mean age was 47.36±15.0 years (65.4% females). Of them, 58.0% were a housewife, and 62.0% had education ≤six years. Most of our patients were T2DM (82.0%). Only 8.8% of the patients was having duration of diabetes less than one year. Hypertension, myocardial infarction, and CVA were reported in 49.8%, 9.2%, and 5.4% respectively. Table 2 shows the treatment types. We have 146(49.5%) patients of study cohort were on insulin with or without OAD and 137(46.4%) patients on OAD alone. Of those on insulin, they use twice daily injection in 47.9% and thrice in 50%. Patients on OAD, 74(25.1%) patients of them were using metformin and 61 (20.7%) on glibenclamide.

The attitude of our patients toward Ramadan is presented in Table 3. Those who fasted last Ramadan were 188 (63.7%) patients. Doctor

consultation before fasting was practiced in 133(70.7%). Of those who consulted their doctors, permission to fast were given only in 46(34.5%) patients and 87(65.5%) fasted against medical advice. Almost all those who fast were for a religious reason and not to other cause like stop oral medications or insulin.

Table 1 Patient's Characteristics

Variables	N(%) or Mean±SD	
Gender	Men N(%)	102(34.6)
	Women N(%)	193(65.4)
Age Years		47.36±15.021
Occupation N(%)	Student	12(4.1)
	Winner/ Self employed	29(9.8)
	Housewife	171(58.0)
Education in years N(%)	Retired	26(8.8)
	Civil servant	57(19.3)
	≤6	183(62.0)
Type of diabetes mellitus N(%)	7-12	67(22.7)
	>12	45(15.3)
Duration of diabetes in Years N(%)	T1DM	53(18.0)
	T2DM	242(82.0)
	≤1	26(8.8)
Hypertension N(%)	1- 5	94(31.9)
	6-10	92(31.2)
	>10	83(28.1)
Myocardial infarction N(%)		147(49.8)
Cerebrovascular accident N(%)		27(9.2)
Total		16(5.4)
	295	100(100.0)

Discussion

This cross-sectional, population-based study was performed in Basrah (Southern Iraq). To our knowledge, this is the first study on Ramadan fasting in Iraq. Nearly half of our patients were using insulin. Insulin therapy during Ramadan fasting represents a challenge to both patients with T2DM and health care providers alike due to the potential for significant hypoglycemia, albeit this is less frequent (and rarely life-threatening) than that encountered in patients with T1DM.⁸ Sixty-two percent of our patients had low education level. High illiteracy rate is barrier for providing the necessary Ramadan-focused diabetes education.⁹

Despite the fact that, according to religious rules, Muslims with acute or chronic diseases are exempt from Ramadan fasting, 63.7% of our diabetic patients fasted during last Ramadan. In France, 51.5%

of diabetic inpatients wished to fast during Ramadan.⁶ In our study, 45.1% of patients were having consulted their doctors to fast, but 87(65.5%) patients fasted against medical advice. Fasting against physician advice was commonly seen in France study where 53% of patients ignored their doctor's advice, and 35% of patients discussed Ramadan fasting with their GP.⁶

Table 2 Distribution of the study group according to treatment

Variable	N(%)	
Type of treatment N(%)	Lifestyle Alone	12(4.1)
	OAD	137(46.4)
	Insulin Alone	83(28.1)
	OAD+Insulin	63(21.4)
	All insulin with or without OAD	146(49.5)
Frequency of Insulin N(%)*	Once daily injection	3(2.0)
	Twice daily injection	70(48)
	More than two injection	73(50)
Type of OAD	Metformin	74 (25.1)
	Metformin+glibenclamide	51(17.3)
	Glimepiride	8(2.7)
	Glimepirid+metformin	3(1.0)
	Glibenclamide	61(20.7)
Total	Glitazon+metformin	3(1.0)
		295(100)

*Of those on insulin

Table 3 Attitude of diabetic patients toward fasting Ramadan

History of fasted last Ramadan N(%)	N(%)
History of doctor's consultation before fasting	188(63.7)
Doctors permission for fasting	133(70.7)
Fasted against medical advice	46(34.5)*
Religious cause of fasting	87(65.5)*
Total	188(100.0)

*Of those consult doctors

In a population-based study (EPIDIAR) conducted across 13 countries revealed adult diabetic Muslims who chose to fast were 78.7% and 42.8% in T2DM and T1DM, respectively.¹⁰ Patients with diabetes usually insist on fasting, often without the approval of their physicians. This insistence may be a reaction against the feeling that due to their disease, they are inferior to other population.¹¹ Patel et al. found that 99.1% of T2DM opted to fast at one center in Oman.¹² Ghouri et al.,¹³ showed the positive influence of religious authorities and prominent members of Muslim in encouraging healthcare, such as holding a health fair in a mosque during Ramadan month.¹³ When we started the study, our belief was that some patients fasted to reduce the dose of insulin or to stop it, but we could not prove that in this study

were almost all patients in this study declare that they fasted Ramadan for a religious reason only.

Study limitation

Small sample and no details about a number of days fasted in last Ramadan.

Conclusion

Two third of diabetic fasted the last Ramadan. Majority of them consulted their doctor before fast. But two third fasted against medical advice.

Acknowledgments

The efforts of the staff of FDEMC in Basrah for their kind cooperation during the period of data collection and analysis.

Authors contribution

The authors contributed equally to the paper.

Conflicts of interest

None declared.

References

- Raveendran AV, Abdul HZ. Diabetes control during Ramadan fasting. *Cleve Clin J Med.* 2017;84(5):352–356.
- Hui E, Bravis V, Hassanein M, et al. Management of people with diabetes wanting to fast during Ramadan. *BMJ.* 2010;340:c3053.
- The Holy Koran, Al-Bakarah, sura 2, verses. pp. 183–185.
- Al-Arouj M, Bouguerra R, Buse J, et al. Recommendations for management of diabetes during Ramadan. *Diabetes Care.* 2005;28(9):2305–2311.
- Hassanein M, Al-Arouj M, Hamdy O, et al. Diabetes and Ramadan: Practical guidelines. *Diabetes Res Clin Pract.* 2017;126:303–316.
- Gaborit B, Dutour O, Ronsin O, et al. Ramadan fasting with diabetes: an interview study of inpatients' and general practitioners' attitudes in the South of France. *Diabetes Metab.* 2011;37(5):395–402.
- American Diabetes Association. Standards of Medical Care in Diabetes. *Diabetes Care.* 2011;34(Suppl 1):S11–S61.
- Cryer PE, Davis SN, Shamon H. Hypoglycemia in diabetes. *Diabetes Care.* 2003;26(6):1902–1912.
- Almaatouq MA. Pharmacological approaches to the management of type 2 diabetes in fasting adults during Ramadan. *Diabetes Metab Syndr Obes.* 2012;5:109–119.
- Salti I, Bénard E, Detournay B, et al. A population-based study of diabetes and its characteristics during the fasting month of Ramadan in 13 countries: results of the epidemiology of diabetes and Ramadan 1422/2001 (EPIDIAR) study. *Diabetes Care.* 2004;27(10):2306–2311.
- Mohamed GA, Car N, Muacevic-Katanec D. Fasting of persons with diabetes mellitus during Ramadan. *Diabetologia Croatica.* 2002;31(2):75–84.
- Patel P, Mirakhor A, El-Magd KM, et al. Type 2 Diabetes and its Characteristics during Ramadan in Dhahira Region, Oman. *Oman Med J.* 2007;22(3):16–23.
- Ghouri N. Health fair in a mosque: putting policy into practice. *Public Health.* 2005;119(3):197–201.