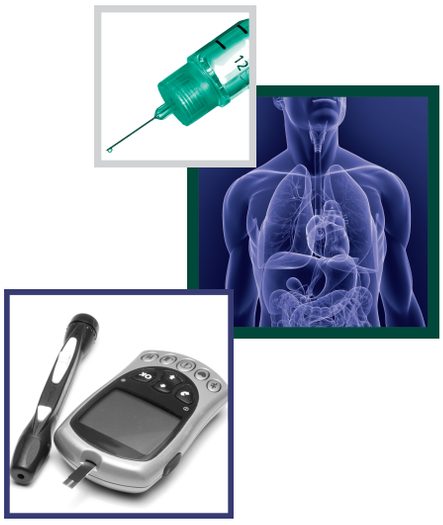
EDITORIAL

How to support a patient with Type 2 diabetes who is determined to undertake a period of religious fasting



"An ... issue may be lack of knowledge and understanding among healthcare professionals around fasting and diabetes. This ... is also a vital area to be addressed, so that Ramadan patient education becomes part of routine delivery of care."

Wasim Hanif[1], Ali Kamal[2], Waqar Malik[2] & Anthony H Barnett[†1,2]

If you practice in a country with a large multiethnic population their cultural and religious needs may put you in a situation where you need to address the issues around religious fasting by your patient with diabetes. Fasting during the month of Ramadan is an essential article of faith of the Muslims and forms one of the five pillars of Islam. Recent data suggest that there are approximately 2.8 million Muslims living in the UK [101] and approximately 80% of those people with diabetes fast for at least 15 days [1]. Diabetes affects around a quarter of the UK Muslim population [2], which gives a rough estimate of around half a million Muslim people with diabetes who may fast during the month of Ramadan. Putting this in perspective this is nearly double the number of people with Type 1 diabetes in the UK.

Muslims are not the only community in the UK that undertakes religious fasting; Hindus also undertake religious fasting on a fairly regular basis. This may include a weekly fast on particular days and during religious festivals such as Karva Chauth. Jewish people fast during the festival of Yom Kippur and Christians from the East may undertake fasting during the Lent period.

We practice in an area with a very high South Asian Muslim population; and hence we have to deal with this issue on a frequent basis. The practice we have established is based on five principles:

- The current advice and guidance of the General Medical Council (GMC) UK
- Cultural and religious needs of the patient population
- The current evidence
- Patient education and therapies
- Where evidence does not exist, we rely on our extensive clinical experience.

In this editorial we discuss these principles and try to outline what we believe as best practice

The 'Good Medical Practice' guidance published by the GMC in 2008 provides useful advice forming a basis for dealing with patients' religious beliefs and needs. GMC guidance states, "You must treat your patients with respect, whatever their life choices and beliefs" [102]. This is further elaborated by "You must not unfairly discriminate against patients by allowing your personal views to affect adversely your professional relationship with them or the treatment you provide

"...in our experience, many patients, once they understand the risks involved, choose not to fast especially as there is clear religious permission."

[1]Diabetes & Endocrinology, University Hospital Birmingham, UK
[2]Diabetes & Endocrinology, Heartlands Hospital, Heart of England NHS Foundation Trust, UK
[†]Author for correspondence: Tel.: +44 121 424 3587; Fax: +44 121 424 0593; anthony.barnett@heartofengland.nhs.uk

part of Future Medicine fsg

or arrange" [102]. Hence, in supporting patients undergoing religious fasting it is important to approach them in a nonjudgmental way. This not only helps in establishing a good professional relationship, but also helps our patients to follow the best clinical advice we can give them.

It is important to follow the old adage 'know your patients well'. This is especially true with regards to religious observance of fasting in patients with diabetes. We will use the Muslim patient's fast during Ramadan as a case study as this is the most well-studied group and the largest group of patients that we deal with in our clinical practice; much of this can, however, be extrapolated to other religious groups.

Ramadan is the ninth month of the Islamic calendar and the fasting can last between 29 and 30 days. It involves not eating anything between pre-sunrise and sunset. The duration of fast tends to vary in countries located in the northern hemisphere depending upon the season in which Ramadan falls. It is short during the winter months but in summer can last up to 20 h [3]. All Muslims with good health are required to fast, although there are clear exemptions for old and ill people [4]. Exemptions are clearly listed in the Koran: "Nor kill (or destroy) yourselves, for Allah has been to you Most Merciful" (Al-Qur'an, 4:29). With regards to fasting for diabetes patients, a consensus statement was issued by health experts and religious leaders in 1995 [5]. The Casablanca Declaration clearly identifies patients who are at high risk if they undertake fasting during Ramadan and offers them religious exemption if they wish not to fast. This declaration forms the basis for subsequent guidance and advice that has been published including the American Diabetes Association (ADA) 2010 consensus statement [3] and two recent review articles published in the UK [4,6]

"If you practice in a country with a large multiethnic population their cultural and religious needs may put you in a situation where you need to address the issues around religious fasting by your patient with diabetes."

The Epidemiology of Diabetes and Ramadan (EPIDIAR) study performed in 13 countries with nearly 13,000 patients is the most in-depth study to look at issues regarding fasting in patients with diabetes [1]. It reported that 43% of patients with Type 1 diabetes and 79% with Type 2 diabetes fast irrespective of the advice given. The main complications encountered by these patients include hypoglycemia, hyperglycemia, diabetic ketoacidosis, dehydration and increased risk of thrombosis. The risk of hypoglycemia is increased fivefold in patients with Type 1 diabetes and by 7.5-fold in Type 2 diabetes. The risk of significant hyperglycemia is increased fivefold. The number of patients offered any kind of advice or pre-Ramadan counseling was very low. Patients did not routinely check their blood glucose values or change their diet or medications during Ramadan.

Patient education must form the backbone of management of patients intending to fast. As the pioneering diabetologist Elliot Joslin said about diabetes, "the person with diabetes who knows the most lives the longest". Patient education should be given at pre-Ramadan counseling 2 months before or at any given consultation where the issue of fasting is brought up with the patient [4,7]. As a matter of routine, issues surrounding fasting should be discussed with patients. This can be further taken forward by including advice on the implications of fasting during Ramadan at the time of diagnosis and in subsequent patient education programs such as DESMOND [103]. If patients intend to fast they should be risk stratified as low, moderate and high risk based on the available guidance [6]. The risk of fasting should be clearly explained and documented for high-risk patients. It is important to explain the risks to patients – in our experience, many patients, once they understand the risks involved, choose not to fast especially as there is clear religious permission.

If the patient decides to fast then advice is given on diet that includes eating more long-acting carbohydrates before starting the fast and more fast-acting sugars such as fruits on breaking the fast. General advice is also given on healthy eating and physical activity [7]. Patients are advised to monitor blood glucose if they have symptoms of hypoglycemia, feel unwell or at other times to help in insulin dose titration. Patients need to be reassured that blood glucose testing while fasting is permissible [104]. Advice is given about when they should break the fast because of risk of serious harm; for example, if blood glucose is less than 3.3 mmol/l or greater than 16.7 mmol/l they have to break the fast [3].

Certain classes of medications have greater risk of hypoglycemia than others. Metformin, dipeptidyl peptidase-4 inhibitors and thiazolidinediones are generally safe in this respect and do not require dose adjustments. Sulfonylureas and insulins are associated with the highest risk of hypoglycemia and require dose adjustments [1]. To illustrate the problem, the recently

published observational VECTOR study reported the risk of hypoglycemia as appreciably higher with the sulfonylurea gliclazide when compared with the dipeptidyl peptidase-4 inhibitor vildagliptin both in combination with metformin [8]. Suitable changes in the class and dose of medications need to be made to reduce the risk of complications especially hypoglycemia.

Adjustments to insulin doses are based on the individual patient's clinical scenario with higher doses being given in the evening and morning doses being suitably reduced [9].

The current evidence base, extensive clinical experience and the advent of new therapies (in addition to older therapies) with low risk of hypoglycemia offer sufficient basis to provide advice and support to patients who wish to observe religious fasting. In this article we have tried to present a nonjudgmental, culturally sensitive guide to best address patients' needs. In our experience, most patients are unaware of the implications of fasting on their diabetes. This is especially true in the summer months when the fast can be very long. Very few patients appear to receive any kind of pre-Ramadan counseling or advice and have their medications adjusted.

If patients are offered advice and guidance it helps them to make an informed choice and good number of high-risk patients may choose a not to fast as they have clear religious permission to do so. The ones that want to fast can have their medication reviewed and guidance given on how to complete the fast safely. An even bigger issue may be lack of knowledge and understanding among healthcare professionals around fasting and diabetes. This latter point is also a vital area to be addressed, so that Ramadan patient education becomes part of routine delivery of care. More research is needed to develop clear management strategies to support patient needs and wishes and also offer advice and guidance to healthcare professionals to best manage these patients.

> "It is important to follow the old adage 'know your patients well'. This is especially true with regards to religious observance of fasting in patients with diabetes."

Financial & competing interests disclosure

The authors have no relevant affiliations or financial involvement with any organization or entity with a financial interest in or financial conflict with the subject matter or materials discussed in the manuscript. This includes employment, consultancies, honoraria, stock ownership or options, expert testimony, grants or patents received or pending, or royalties.

No writing assistance was utilized in the production of this manuscript.

Bibliography

1 Salti I, Bénard E, Detournay B *et al.* Results of the Epidemiology of Diabetes and Ramadan 1422/2001 (EPIDIAR) study. *Diabetes Care* 27, 2306–2311 (2004).

2 Hanif MW, Valsamakis G, Dixon A *et al.* Detection of impaired glucose tolerance and undiagnosed Type 2 diabetes in UK South Asians: an effective screening strategy. *Diabetes Obes. Metab.* 10, 755–762 (2008).

3 Al-Arouj M, Assaad-Khalil S, Buse J *et al.* Recommendations for management of diabetes during Ramadan: update 2010. *Diabetes Care* 33, 1895–1902 (2010).

4 Karamat MA, Syed A, Hanif W. Review of diabetes management and guidelines during Ramadan. *J. R. Soc. Med.* 103, 139–147 (2010).

5 *International Meeting on Diabetes and Ramadan Recommendations: edition of the Hassan II Foundation for Scientific and Medical Research on Ramadan*. Casablanca, Morocco, FRSMR, 1995.

6 Hui E, Bravis V, Hassanein M *et al.* Management of people with diabetes wanting to fast during Ramadan. *BMJ* 340, c3053 (2010).

7 Bravis V, Hui E, Salih S *et al.* Education and awareness in diabetes programme for Muslims with Type 2 diabetes who fast during Ramadan. *Diabet. Med.* 27, 327–331 (2010).

8 Hassanein M, Hanif W, Malik W *et al.* Comparison of the dipeptidyl peptidase-4 inhibitor vildagliptin and the sulphonylurea gliclazide in combination with metformin, in Muslim patients with Type 2 diabetes mellitus fasting during Ramadan: results of the VECTOR study. *Curr. Med. Res. Opin.* 27(7), 1367–1374 (2011).

9 Greenstein A, Malik RA. Glycaemic control in south Asian patients during feasting and fasting. *Br. J. Hosp. Med. (Lond.)* 67(10), 523–526 (2006).

■ Websites

101 Estimation of UK Muslim population www.guardian.co.uk/news/datablog/2011/jan/28/muslim-population-country-projection-2030

102 General Medical Counsel. Supplementary ethical guidance for doctors on 'personal beliefs' and how it impacts their care for patients www.gmcuk.org/guidance/ethical_guidance/personal_beliefs.asp

103 DESMOND www.desmond-project.org.uk

104 Muslim Spiritual Care Division in the NHS. Ramadan Health Factsheet 12 2009 www.ramadan.co.uk/RamadanHealthFactSheet2011.pdf