

# 'A Safer Ramadan': developing an integrated approach to support safer fasting and feasting for people with type 2 diabetes

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Received: 15 May 2014

Accepted in revised form: 21 July 2014

## Abstract

In the United Kingdom, it is estimated that there are over 300 000 Muslim people with diabetes. Observance of Ramadan is an integral part of being a Muslim that involves abstinence from food and drink from dawn till dusk. In the UK over the next 10 years, Ramadan will fall in the heart of the summer months, resulting in longer fasting periods. For people with diabetes fasting can be problematic, yet few individuals receive advice from health care professionals on how to manage their diabetes during the Ramadan period. A 'whole systems' approach, involving community awareness, health care professional training and patient education, was used to develop and implement an educational intervention to address the needs of individuals with type 2 diabetes during the Ramadan period.

This practice point paper details this service improvement project and lists a number of recommendations to improve the uptake and sustainability of such interventions to support safer fasting and feasting for people with type 2 diabetes during religious events. Copyright © 2014 John Wiley & Sons.

*Practical Diabetes* 2014; 31(7): 292–297

## Key words

Ramadan; structured education; type 2 diabetes; fasting; service improvement

## Background

According to the Religious Tolerance Organisation there are approximately 1.6 billion Muslims in the world, many of whom participate in the holy month of Ramadan.<sup>1</sup> Observance of Ramadan is an integral part of being a Muslim, and one of the five pillars of Islam. A pillar is the term given to the five duties incumbent on every Muslim. Muslims observing Ramadan are required to abstain from food and drink from dawn till dusk. The prevalence of diabetes in countries with large Muslim populations is similar to the prevalence rates observed in non-Muslim countries.<sup>2</sup> Globally, it is estimated that 40–50 million Muslims with diabetes fast during Ramadan.<sup>3</sup> This creates a medical challenge for health care providers around the world where there are significant populations of Muslims. Moreover, it highlights a worldwide need for health care providers and patients to be aware of the potential risks for people with diabetes who want to fast. In the UK, it is estimated that there are approximately 2.7 million Muslims living in England and Wales, of whom an estimated 325 000 have diabetes.<sup>4</sup> Many

Muslims are of South Asian origin and are six times more likely than the UK white population to have diabetes.<sup>5</sup> With the prevalence of diabetes in England set to increase by 47% by 2025,<sup>5</sup> the successful management of diabetes in this ethnic group is paramount.

Ramadan is the ninth month of the Islamic lunar-based calendar and, as a consequence, occurs earlier by 11 days each year. In the UK, this means that over the next 10 years Ramadan will fall in the heart of the summer months, with longer daylight hours and longer fasting periods varying from 15–18 hours per day. As a result, this may have a greater impact on people with diabetes and raises more concerns for the health of some who fast during this period. The Qur'an does exempt people who are ill from fasting during Ramadan. For people with diabetes, exemption from fasting is classified according to the degree of risk for complications to occur.<sup>6</sup> Therefore, not all people with diabetes are automatically exempt from fasting during Ramadan, and some who are, still wish to do so. The population-based Epidemiology of Diabetes and

Ramadan (EPIDIAR) study (involving 12 243 people with diabetes living in 13 Islamic countries) found that about 43% of people with type 1 diabetes and 79% of people with type 2 diabetes (T2DM) fast during Ramadan.<sup>7</sup> It is estimated that up to 50 million Muslim people with diabetes worldwide fast for a month each year.<sup>3</sup> However, the evidence is sparse on how to guide the management of people with diabetes who wish to observe Ramadan or other religious practices that involve fasting or feasting.

The EPIDIAR study demonstrated various health risks that people with T2DM can develop during their Ramadan fasting. These included: severe hypoglycaemia which results from a change in eating patterns during Ramadan; diabetic ketoacidosis due to a lack of insulin; dehydration due to lack of fluid intake during the fasting period; and orthostatic hypotension in addition to an increased risk of thrombosis due to increased blood viscosity secondary to dehydration. Only 62% of those with T2DM in the EPIDIAR study reported receiving recommendations from their health care providers, including recommendations in lifestyle changes (diet and physical activity) and in medication choice and dosage to limit the potential complications of fasting and feasting.<sup>7</sup> This study highlighted the lack of awareness among health care providers, even in countries with large Muslim populations, of the potential risks associated with diabetes.

In the UK, the Diabetes National Service Framework (NSF) was developed by the Department of Health to improve services by establishing national standards to drive up service quality and address variations in care. The NSF together with the National Institute for Health and Care Excellence recommend that services for people with diabetes should promote patient empowerment and that structured education should be offered to all people with diabetes from diagnosis onwards.<sup>8,9</sup> This is because there is evidence that structured education can change health beliefs and behaviours to improve patient outcomes and criteria have been agreed on what constitutes structured education. These



**Community awareness**

- Raises awareness of the impact of Ramadan and diabetes
- Slide set designed to be deliverable by local community leaders or local health care professionals (HCPs)
- Suitable for widest range of audiences. Potentially increases uptake of patient education programme
- Highlights importance of open discussion about the risks and options for people with diabetes observing Ramadan

**Health care professional training**

- Medicalised version of the community awareness package
- Training using group case study discussions
- Promotes discussion of treatment of options
- Resources enable it to be deliverable to small or large groups of HCPs
- Facilitated by trained HCP

**Patient self-management education**

- 'A Safer Ramadan'
- 3-hour group structured self-management education
- Increases understanding of the impact of Ramadan on diabetes
- Promotes opportunities for informed choices regarding fasting/not fasting
- Uses curriculum and interactive resources
- Delivered by 1 or more trained HCPs
- Suitable for delivery in local communities

Figure 1. The 'A Safer Ramadan' intervention

criteria include: a patient-centred philosophy; a structured curriculum; trained educators; and being quality assured and audited.<sup>10</sup> Moreover, referral to a structured education programme for people with T2DM is now a key indicator in the UK's Quality and Outcomes Framework which financially rewards primary care contractors to drive up the standards and quality of care.<sup>11</sup> Diabetes-specific education programmes such as Diabetes Education and Self-Management for Ongoing and Newly Diagnosed (DESMOND) have demonstrated that structured self-management education meeting these recommendations and being driven by a patient-centred philosophy can result in enhanced quality of life, quality of care and improved physical health of patients.<sup>12-15</sup>

To address the needs of different ethnic groups such as South Asians living in the UK, it is essential that such self-management programmes are tailored to meet the specific needs of ethnic groups. The 'Ramadan Education and Awareness in Diabetes' (READ) programme

was developed to provide a Ramadan-focused structured education programme for Muslim patients to allow for safer fasting. An evaluation of the programme showed that attendance at the programme resulted in significant weight loss and fewer hypoglycaemic events when compared to a control group who received no education.<sup>16</sup> However, despite the positive clinical outcomes, the study did suffer from a number of limitations. In particular, the education package was not underpinned by psychological learning theories and no evaluation process was undertaken to assess the consistency of delivery of the education package. Nevertheless, this study was a strong drive for the DESMOND collaborative to conduct further work in this area with the help and expertise of health care professionals (HCPs) who were also involved in the READ study. This partnership resulted in the development and piloting across five UK primary care trusts (PCTs) of a novel educational intervention, 'A Safer Ramadan', using a 'whole systems' approach.



Figure 2. The 'A Safer Ramadan' training event in action

#### Aim and objectives

This paper describes the experience of developing and delivering the 'A Safer Ramadan' intervention for people with T2DM. The objectives are to:

- Define the 'whole systems' approach used and highlight the benefit of such an approach for developing education interventions.
- Show how a 'whole systems' approach was applied to developing a multifaceted intervention package called 'A Safer Ramadan'.
- Highlight the key barriers and drivers for the effective evaluation, uptake and sustainability of such an intervention in practice.

#### Why was a 'whole systems' approach used?

A 'whole systems' approach involves identifying the various components of a system and evaluating these components and their relationships to each other rather than studying an individual component in isolation. It is essentially a holistic approach to problem-solving that is used in a wide variety of private and public organisations for service improvement. There is increasing international recognition that such an approach is needed for developing complex interventions.<sup>17</sup> In the UK, the Medical Research Council's framework for the development of complex interventions acknowledges the need to consider the wide-ranging influences of a complex intervention.<sup>18</sup> In view of this and

based on our own experiences of developing the DESMOND intervention, it was decided that a 'whole systems' approach, especially in a hard-to-reach community, would be beneficial to address the specific needs of the different stakeholders.

#### How was a 'whole systems' approach applied?

In this collaborative project, a multidisciplinary team of UK HCPs and researchers used a 'whole systems' approach to develop an integrated educational and training package to support people with T2DM during Ramadan. Based on the team's cumulative experience of developing and implementing the DESMOND<sup>12-15</sup> and READ<sup>16</sup> education programmes and on informal feedback from Muslim patients participating in these programmes, three key components were identified to address the specific education needs of people with T2DM during Ramadan, their HCPs and their wider community. These components were: patient self-management education; HCP training; and community awareness. Three individual education packages were then created for each of these stakeholder groups which together made up a whole toolkit for use by key trained people to deliver in the community setting to improve the management of T2DM during Ramadan (Figure 1). Each of the three packages offered a guidance manual with a broad, structured and

evidence-based curriculum that gave step-by-step instruction on the planning, organisation and delivery of the education. These curricula were based on the tried and tested format used in the successful DESMOND education programme and they fulfilled the recommendation of the NICE guidelines on structured education.<sup>9</sup> The format involves an accompanying script containing all the facts and figures needed to deliver key information by means of a facilitative discussion that encourages group participation. All the content information for the Ramadan education packages was checked prior to use against extensive guidance issued by the American Diabetes Association consensus recommendations of 2005<sup>3</sup> on which the International Islamic Fiqh Academy and the Islamic Organisation for Medical Sciences based their religious recommendations.<sup>6</sup> Each package also had a set of supporting resources including: a presentation folder with a laminated slide set for small group presentations; a CD-ROM with a slide set for use in large groups using a laptop and projector; a set of case study resources; and other training resources specific to the package.

#### What took place?

In 2010, as part of a service improvement project, teams of HCPs from five PCTs (as they were known at the time in the UK) were trained to deliver all three education packages (Figure 1) of the 'A Safer Ramadan' intervention in their local areas. The training was delivered by experienced DESMOND educators at a dedicated weekend training event (Figure 2). The trained teams were then supplied with the supporting resources for all three education packages to enable them to deliver the intervention in their respective PCTs. For evaluation purposes, each PCT team was asked to collect observational data and provide structured and anecdotal feedback of their experience. This was in line with common service improvement methods used to gather this type of information to establish the acceptance and uptake of new initiatives. By March 2011, a total of seven community awareness sessions had been



delivered to groups of 12–20 attendees, seven training events for HCPs had been held, and 10 patient education courses, with up to eight participants attending at each, had also been held. The general feedback from all three education packages was positive regarding the acceptance of the intervention. However, a number of teething problems were also highlighted in connection with implementation and uptake.

Box 1 presents a case study of the specific feedback received from NHS Leicester City regarding the implementation of the three components of the 'A Safer Ramadan' intervention. This case study illustrates the considerable challenges faced by the PCT teams when trying to implement such an intervention in hard-to-reach communities. It shows the real need for a long-term approach to allow for effective engagement through the Imams within these communities to improve uptake. Also, the community and patient education sessions need to be delivered to mixed-language audiences, requiring appropriate language translation. However, despite these initial problems with uptake, feedback from actual participants showed that, in general, the community sessions improved awareness about the health implications of fasting for people with diabetes during Ramadan and highlighted issues around diabetes that need to be addressed by the local Muslim faith communities to ensure that the right messages about fasting are given. The HCPs who received training reported increased understanding of the religious context and greater expertise in clinical management during Ramadan. Finally, participants in the patient self-management education courses demonstrated increased understanding of their options for observing Ramadan. Examples of the feedback from the community, HCPs' and patients' sessions are detailed in Box 2.

### Resulting actions

As a result of this work and the feedback received, the team developed an additional 'Understanding Diabetes for Ramadan' programme for people who had not previously attended structured education. It

#### Primary Care Trust: NHS Leicester City (dates: May to September 2010)

##### Actions taken to implement the community awareness session

- Met with community leaders and Imams prior to implementation of the intervention
- Organised a community session through Friends of Al Aqsa (a UK non-governmental organisation with established links in the community)
- Community session delivered in English by a trained educator with a translator present to cater for a mixed-language audience including Gujarati and Punjabi (19 attendees)
- Another session was organised through the Friends of Al Aqsa but only 1 person attended
- Several attempts to organise further community awareness sessions through the Imams were unsuccessful due to the many other demands prior to Ramadan
- Radio Ramadan was used as an alternative way to promote 'A Safer Ramadan' with a 2.5 hour community session delivered during the Women's Hour Show

##### Actions taken to implement the health care professional training session

- 40–50 health care professionals working within a local Muslim community group were contacted
- An evening meeting was held in a local community centre with Halaal food provided (25 attendees)
- Main slide session delivered in English by a trained educator with group work to look at case study scenarios
- A further 2 health care professional training sessions were held at a local medical centre

##### Actions taken to implement the patient educational session

- Recruited 2 practices in the local Muslim community
- Posters displayed in waiting room to promote education sessions
- Patients contacted by telephone and invited to attend with a confirmation letter sent to interested participants
- Trained educators delivered a total of 4 patient sessions
- Poor attendance at sessions despite patient confirmation (only 1–6 people per session)

Box 1. A case study to illustrate how the 'A Safer Ramadan' intervention was implemented

##### Community awareness package

- 'The programme was excellent but you need the local Imams on board so that there is a clear joined-up message'
- 'Patients will agree with health care professionals but once they have left the consultation, they will seek advice from Imams and believe them and act on this, regardless of the programme or resources used!'

##### Health care professional training

- 'I did not know that ¼ million diabetes patients are Muslims!' (Gaining an increased understanding of the religious context of Ramadan on diabetes)
- 'Understanding risk groups and how to identify people who will need intensive input.' (Gaining greater expertise about the management of type 2 diabetes during Ramadan)

##### Patient self-management course

- 'The course made me feel better about not fasting, less guilty. It helped me to understand some people can fast and others can't'
- 'I don't fast and thought I did not need to come. I learnt about food and different snacks. I got information about managing extra foods and different foods that we have at Ramadan. I cut down my portions. I coped better and my blood sugar levels were better'

Box 2. Participant feedback for the 'A Safer Ramadan' intervention

was designed to help increase understanding of diabetes prior to attending 'A Safer Ramadan' education. A patient handbook and new pictorial and 3D model resources were created to facilitate this new programme. In addition, practical

guidance was also developed for local teams on good logistics, planning and the building of relationships in the community to facilitate essential activities taking place in good time prior to Ramadan and promote uptake of the intervention.

#### Key points

- Many patients with type 2 diabetes (T2DM) observe religious events that involve fasting or feasting that can lead to poor management of their diabetes
- For Muslim patients with T2DM, there is a real need to manage their diabetes effectively during Ramadan, as the timing of this period during the next 10 years will result in longer fasting periods and potentially more health problems for these patients
- A specific Ramadan-focused structured education programme could lead to clinical benefits and improved quality of life for people with T2DM
- A 'whole systems' approach can address the needs of all stakeholders when developing an educational intervention for fasting and feasting, including patients, health care professionals and the community
- Establishing good community links is essential to ensure the effective uptake and sustainability of such interventions for hard-to-reach groups

Following on from the success of this initial project, a small feasibility study was also initiated to inform a possible future randomised controlled trial to determine whether the 'A Safer Ramadan' patient education programme would be:

- Feasible to deliver in primary care.
- Acceptable to stakeholders.
- Effective at reducing the occurrence and severity of hypoglycaemic events during Ramadan.

Two UK PCTs had initially expressed an interest in participating in the study and recruitment targets of 20 participants were set for each site, but, unfortunately, delays at the organisational level meant that only the Leicester PCT took part.

In total, 19 people were recruited and attended the education programme at the Leicester site and follow-up data were collected for 18 people. This did show that recruitment was successful at this site and the patient education programme was viewed as acceptable to our Muslim participants. This successful recruitment was driven by a research nurse who already had an established rapport with the Muslim community from which she was trying to recruit. Unfortunately, analysis on hypoglycaemic events was not carried out due to insufficient return of data, in the form of questionnaires and self-completed hypo diaries. Although this was disappointing, it did highlight a need to address the barriers that were leading to the insufficient return of the questionnaires and diaries with this group of patients.

#### Next steps

Despite its limitations, the feasibility study allowed us to establish a number of recommendations for future research evaluations in this area. It enabled us to build a strong foundation for future research that focused on community engagement. For communities to be involved in studies successfully and to maximise recruitment, it is essential for organisations and research teams to have an established rapport, through a key person with their target community prior to any study initiation. Moreover, if more than one site is involved, multi-site commitment is essential, with key research personnel and resources at each site to drive recruitment and robust data collection.

Regarding the effective implementation and sustainability of such an intervention, secure and realistic funding is needed from the relevant authorities. Moreover, there needs to be a proper infrastructure in place, including administrative support, for ongoing provision of this type of programme so that all three education packages can continue to be delivered effectively to achieve the desired outcome. An excellent example of how this can be achieved was in NHS Kirklees, where Partnerships for Wellbeing (an organisation specialising in self-management and self-care training) was commissioned to roll out the 'A Safer Ramadan' intervention across the Kirklees catchment area, between March 2012 and October 2012. This resulted in 20 community awareness workshops with over 900 people attending, an HCP workshop, and patient education sessions attended

by a total of 54 Muslim women. In particular, the community awareness workshops proved to be a powerful forum to engage the Muslim community in their health and diabetes, which subsequently led to an increase in referrals for other self-care programmes such as DESMOND. Exploring different ways of engaging Muslims in such programmes is important for their success. Group education is just one model, and future studies are needed to look at different formats for delivering education to Muslims and other hard-to-reach groups.

#### Summary and implications for practice

In summary, the 'A Safer Ramadan' intervention provided an integrated approach to the management of people with T2DM during the fasting period of Ramadan. This approach viewed the problem as a 'whole system' whereby not just the needs of people with T2DM were addressed, but also the needs of the HCPs responsible for their care and their wider community. The sustained implementation and evaluation of this type of intervention has been difficult but these are problems that can be addressed by our recommendations for future research in this area. Our work in this area has a number of implications for practice which are also applicable to other culture/faith groups who may observe occasions of religious or culturally inspired fasting and feasting:

- A 'whole systems' approach offers an effective format for addressing the specific needs of patients, health care providers and communities when developing specific education initiatives such as the 'A Safer Ramadan' intervention.
- Community engagement is an essential part of delivering effective education for specific health concerns relating to religious/cultural practices such as fasting or feasting.
- Community champions with close links to the targeted group should be used to promote specific education programmes like the 'A Safer Ramadan' intervention and drive recruitment.
- Appropriate support at commissioner-level is required to implement such education interventions.

### Acknowledgements

KK and MJD would like to acknowledge support for this work provided by the National Institute for Health Research (NIHR), the Collaboration for Leadership in Applied Health Research and Care East Midlands, and the NIHR Research Diet, Lifestyle & Physical Activity Biomedical Research Unit, University of Leicester. The authors would also like to thank all those who contributed to this project. Further details of the 'A Safer Ramadan' programme can be found online at [www.desmond-project.org.uk](http://www.desmond-project.org.uk), by emailing [Desmondweb@uhl-tr.nhs.uk](mailto:Desmondweb@uhl-tr.nhs.uk) or by calling +44(0)116 258 5881.

### Declaration of interests

There are no conflicts of interest declared.

### Funding

The project was supported by two unrestricted education grants from Eli Lilly Charitable Grants and Donations Committee that paid for

training of the HCPs and the supporting resources required to deliver the education packages.

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## POEMs



### Bariatric surgery plus intensive medical therapy better than medical therapy alone for diabetes (STAMPEDE)

#### Clinical question

In adults with uncontrolled type 2 diabetes, how does bariatric surgery plus intensive medical therapy compare with intensive medical therapy alone?

#### Bottom line

Bariatric surgery in conjunction with intensive medical therapy results in significantly enhanced glycemic control at three years as compared with medical therapy alone, as well as better weight control, less use of glucose-lowering medications, and improved quality of life.

#### Reference

Schauer P, et al., for the STAMPEDE Investigators. Bariatric surgery versus intensive medical therapy for diabetes – 3-year outcomes. *New Engl J Med* 2014;370(21):2002–13.

#### Synopsis

Between March 2007 and January 2011, 150 adults with uncontrolled type 2 diabetes were randomised to receive intensive medical therapy, Roux-en-Y gastric bypass plus intensive medical therapy, or sleeve gastrectomy plus intensive medical therapy. In this trial, patients aged 20 years to 60 years with a body mass index (BMI) between 27 and 43 and a glycated haemoglobin (HbA<sub>1c</sub>) level greater than 7.0% were eligible for the trial. The primary outcome was an HbA<sub>1c</sub> level of less than or equal to 6.0% with or without

the use of medications. Secondary outcomes included weight loss, the use of glucose-lowering medications, and quality-of-life scores. At baseline, 68% of the patients were women, 74% were white, and the average age was 48 years. The average BMI was 36±3.5; the average HbA<sub>1c</sub> level was 9.3±1.5%. Of the 150 patients enrolled, nine withdrew and four were lost to follow-up, leaving 137 to be evaluated at the three-year mark. After 36 months, 5% of the intensive medical therapy patients met the HbA<sub>1c</sub> target, compared with 38% of the Roux-en-Y patients and 24% of the sleeve gastrectomy patients. These differences were statistically significant, with a number needed to treat of 5 for sleeve gastrectomy and 3 for Roux-en-Y. Relapse was most common with medical therapy alone and least likely with Roux-en-Y (80% vs 50% vs 24%); the difference between Roux-en-Y and medical therapy was statistically significant. At three years, patients in both surgical groups had a reduced need for glucose-lowering medications, as well as reductions in BMI, body weight, and waist circumference, as compared with the medical therapy alone group. Five of eight mental and physical quality-of-life measures were also significantly improved in the two surgical groups.

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