

Letter to the editor**Diversity in endocrinology practice:
the case of Ramadan****Ioannis Ilias,¹ Luai Said Tayeh,¹ Isidoros Pachoundakis²**¹Department of Endocrinology, Elena Venizelou Hospital; ²Department of Sociology, Panteion University; Athens, Greece

There is today an imperative need to raise health workers' awareness of contemporary cultural diversity and different beliefs, values and attitudes concerning health and disease in order to provide culturally appropriate and professionally competent care.

Muslims currently account for 1%-10% of the population in Western Europe (<http://www.pewforum.org/2011/01/27/tablemuslimpopulationgrowthbycountry>). It is obligatory for every Muslim to fast once a year, and specifically during the month of Ramadan.¹ Ramadan migrates over the seasons since its dates are based on the lunar calendar. It starts with the New Moon and ends with a three-day celebration called Eid al-Fitr (End of Fasting Feast, i.e. Small Holiday).

During Ramadan all healthy adult Muslims are obliged to abstain from any kind of food, water, chewing gum, all kinds of tobacco, as well as from sex from sunrise to sunset. However, fasting is purely the external and practical part of Ramadan. Spiritual aspects of fasting ban lying, gossiping or deceiving.

As defined in the Qur'an, fasting is a strict practice of deep personal worship in which Muslims seek the highest level of awareness of the Divine. Two main meals are included in Ramadan: Iftar after sunset and Suhur before sunrise. From Iftar to Suhur and until the next day everyone can eat what he/she wants, including sweets and drinks, but avoiding alcohol and pork (the last two are strictly forbidden in the Qur'an).

Some people, e.g. the temporarily sick and travelers, are excluded from fasting, but after their treatment or finishing their journey, they must fast in compensation for the days that they have lost. It should be emphasized that the exemption includes women who are pregnant, breastfeeding or menstruating.² Also exempt for the whole month of Ramadan are those that are suffering serious and/or chronic health problems (e.g. diabetes or cardiovascular disease) but they should feed instead a poor man every day throughout Ramadan.

Ramadan may be challenging from an endocrinologist's point of view since the fasting individual should remain without food or water/drink for many hours. Furthermore, according to some interpretations, p.o. treatment should be proscribed during daylight in the month of Ramadan.³

Longer acting glucocorticoids (such as prednisolone or dexamethasone) –at least to cover daylight replacement needs– may be considered for patients with adrenal insufficiency shortly before and during Ramadan.³

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Although pregnant women are exempt from fasting, if they do fast they risk developing ketosis. Surprisingly, a small study from Turkey did not concur with this finding.⁴

Furthermore, although patients with diabetes can also be exempt from fasting, many do fast; hypoglycemia is then a concern since in patients with diabetes mellitus type 2 (DM2) who fast the risk is increased fivefold.⁵ Patients with diabetes mellitus type 1 who fast risk diabetic ketoacidosis.⁵ Dehydration is also possible.⁵ Nevertheless, in patients with well-controlled DM1 or DM2 fasting is feasible.

For patients with DM2 on p.o. treatment caution should be applied in the use of sulfonylureas (SU) as these medications carry an inherent risk of hypoglycemia. For once-daily dosing a SU should be given before Iftar (i.e. the meal after sunset, with appropriate dosage adjustments), while for twice-daily regimens the SU dose before Suhur (i.e. the meal before sunrise) should be halved, keeping unchanged the SU dose before Iftar.^{2,5} Glitidines should be taken before Iftar and Suhur.⁵ A DPP4-inhibitor is a sensible p.o. antidiabetic choice for Ramadan with practically no hypoglycemia risk.⁶

For patients with DM2 on insulin or patients with DM1, a basal-bolus regimen is advised,^{2,5} taking, however, into account the paucity of relevant data.⁵ A 20% dosing reduction in long-acting insulin analogues, given with Iftar, has been proposed to reduce the risk of hypoglycemia.⁷

Ramadan is important for all Muslims and is full of life lessons. Fasting prompts thinking about the

lives of the poor and of those without food. It is the month of love, mercy, kindness, charity and union of all Muslims. In the absence of guidelines, individualized preparation and drafting of therapy regimens should be implemented for Muslims with adrenal insufficiency or diabetes who choose to observe the fast of Ramadan.^{5,8,9}

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