Ramadan: What Every Health Care Professional Should Know

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I. What is Ramadan?

Ramadan, one of the five pillars of Islam, is the lunar month during which Muslims refrain from any intake of foods, fluids, smoking, as well as oral or injectable medications from dawn until dusk. Typically, the eating pattern consists of a large meal at sunset (iftar) and a light meal before dawn (suhoor) with substantial amounts of sweets, dates, fruits, and juices in between these two meals. Most years, the duration of fasting may be 12 hours or more between dawn and sunset. Consumption of fried foods and carbohydrates is usually increased. Observant individuals tend to reduce their physical activities and spend more time resting or sleeping during the day. They also tend to decrease or irregularly take their medications and avoid seeking medical appointments.

Islamic scholars exempt individuals with poor health from mandatory Ramadan fasting, allowing for fasting exemption through charitable acts (fidyah) if chronic illness and socioeconomic conditions permit. Despite this, some may still choose to fast based on spiritual preferences. Religious exemption to fasting may apply to pregnant or breastfeeding women, travelers, and individuals (especially elderly) with chronic illnesses in which fasting may predispose them to harm. However, some patients, such as those with diabetes, will elect to observe Ramadan against medical advice due to the high religious drive, particularly among older individuals and due to the common belief that fasting fosters physical and spiritual purification.

Ramadan creates a medical challenge for patients and their health care providers. During Ramadan, several changes occur that can affect the general well-being of patients with chronic conditions, including diabetes and hypertension. Adherence to prescribed dietary regimens is difficult and often ignored. Fasting can potentially lead to deterioration of the metabolic control and increase the risks of hypoglycemia and dehydration during the fasting period, which extends for an average of 12 to 14 hours. It is important that medical professionals be aware of the changes in diet, physical activity and medication-taking associated with fasting during Ramadan, the potential risks of fasting and approaches to address those changes and to mitigate those risks.

II. Why is it important for health care professionals to know about Ramadan?

It is important that providers know about Ramadan and how fasting can have an effect in Muslim patients' health and disease management. It is important that they can ensure culturally competent care with respect for diversity. Additionally, health care professionals should possess knowledge about the fundamentals of Ramadan, including exemptions from fasting, as well as treatments and procedures that may invalidate fasting. This awareness is essential for effectively managing chronic conditions during this period. In the context of diversity, equity, and inclusion (DEI) in health care, it can allow health care professionals to be respectful and engage in patient-centered care, understanding the impacts of fasting on patient's health. This awareness can also allow for adjustments for medication management of their chronic conditions during Ramadan, especially if patients are fasting. Health care professionals understanding Ramadan allows for open communication and builds trust with patients.

Abolaban H, Al-Moujahed A. Muslim patients in Ramadan: A review for primary care physicians. *Avicenna J Med*. 2017;7(3):81-87. doi:10.4103/ajm.AJM_76_17

III. Safe management of chronic disease state medications during Ramadan

Safe and practical medication practices should be followed for individuals fasting during Ramadan. It may be favorable to select once, or twice daily medication regimens as opposed to three- or four-time daily regimens. Specific recommendations for diabetes and hypertension are described below.

a. Diabetes

Patients with type 1 diabetes and pregnant women with diabetes should be strongly advised not to fast due to the potentially serious risk of complications. However, studies performed in Asia and the Middle East have generally demonstrated the safety of fasting in most patients with type 2 diabetes, provided Ramadan-focused education and appropriate dosage adjustments of oral and injectable agents (in particular insulin products) are made under direct medical supervision. It is essential that health care providers perform a complete medical assessment and provide individualized educational counseling for all patients with diabetes wishing to observe Ramadan to ensure safe fasting practices. Counseling should include the potential risks of fasting (mainly signs and symptoms of hypoglycemia and hyperglycemia), the indications to break fasting, the importance of frequent self-monitoring of blood glucose, and patient-specific recommendations regarding modification of physical activity, meal planning, and medication administration.

i. Advise patients to check their blood glucose levels more frequently, and if at any time their blood glucose drops below 70 mg/dL or goes above 300 mg/dL, the patient should break their fast.

ii. Inform patients of the signs and symptoms of hyper- and hypoglycemia.
iii. Emphasize a healthy diet, as many iftar meals include foods heavy in carbohydrates, which results in an increased risk of post-prandial hyperglycemia.
iv. To minimize the risk of post-meal hyperglycemia, patients should divide their meals into two to three smaller meals during the non-fasting period rather than consuming one large meal.
v. A 3-day festival known as Eid Al-Fitr follows the month of Ramadan and is usually characterized by sharing foods and sweets. Education is warranted to prevent overindulgence during this time.
vi. If involved in routine exercise, they may modify the intensity and timing to avoid hypoglycemia.
vii. Management recommendations for antihyperglycemic medications following discussion with provider:
    1. Metformin: If taking the immediate release formulation once daily, take with iftar; if taken twice daily, take with suhoor and iftar. If taking the extended-release formulation, take once daily at iftar.
    2. Thiazolidinediones (TZDs): Dose can be taken at iftar or suhoor. No modifications required.
    3. Sulfonylureas: If taken once daily, take it at iftar; dose may be reduced with good glycemic control per discussion with provider. If taken twice daily, take before suhoor and iftar. In this scenario, may consider reducing the suhoor dose in patients with good glycemic control after discussion with provider.
    4. SGLT-2 Inhibitor: Dose should be taken with iftar. Extra clear fluids should be ingested during non-fasting periods.
    5. GLP-1 agonist and DPP-4 Inhibitors: No modifications needed.
    6. Insulin therapy:
        a. Long-acting insulin and intermediate-acting insulin: If taken once a day, take at iftar. If taken twice a day, take normal dose at suhoor and consider reducing iftar dose.
        b. Rapid- or short-acting insulin: Take normal dose at iftar. Omit lunchtime dose. Consider reducing the suhoor dose.
        c. Premixed insulin: If taken once daily, take at iftar. If taken twice daily, take the usual morning dose at iftar and reduce the evening dose to take at suhoor.

Reference:

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Almalki MH, Alshahrani F. Options for Controlling Type 2 Diabetes during Ramadan. Front Endocrinol (Lausanne). 2016;7:32. Published 2016 Apr 18. doi:10.3389/fendo.2016.00032

b. Hypertension
    i. Medication choice: Choose antihypertensive medications with longer durations of action or once-daily dosing for sustained efficacy during fasting. iii
    ii. Hydration and lifestyle: Emphasize the importance of staying hydrated during non-fasting hours, and regularly monitor their blood pressure and to watch for signs of hypotension such as dizziness and lightheadedness.
        1. To avoid dehydration during Ramadan: Drink between eight and 12 cups of water between iftar and suhoor, avoid excessive use of spices and salt, and show restraint when eating sweets. iv
    iii. Dosage Schedule Considerations: i
        1. Twice daily regimen: Administer drug doses only at iftar and suhoor to maintain blood pressure control during non-fasting hours.
        2. For single dose medication: Patients with an evening dose experience an unchanged therapeutic scheme during Ramadan, posing no interference with fasting. However, for those accustomed to morning or daytime intake, caution is advised when delaying to the evening to ensure it doesn't impact treatment efficacy or drug tolerance. For instance, propranolol is absorbed more rapidly after morning dosage than after night dosage, and enalapril administered at 7 a.m. significantly reduces blood pressure during the day but is less effective at night. Alternatively, patients can take their medication during suhoor before beginning their fast. Medications that require an empty stomach should be taken 30 minutes before the pre-dawn Suhoor meal or before bedtime.
        3. Studies on antihypertensive drugs showed no significant impact on efficacy during Ramadan with patients maintaining once-daily drug regimens. Blood pressure monitoring indicated no significant differences between periods before and during Ramadan, suggesting the safe continuation of antihypertensive medications for individuals with essential hypertension during fasting.
        4. Diuretics may not be suitable during Ramadan. If prescribed, they should be taken in the early evening when patients can maintain water intake. v

c. When should you consult a physician?

Consulting a physician for safe management of chronic disease medications during Ramadan should be done with a proactive approach. It is recommended to consult a physician before the start of Ramadan to discuss concerns and potential adjustments specifically for medication management.

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IV. Communication strategies for patients observing Ramadan
    a. Studies have noted that many patients avoid consulting their clinicians about fasting due to past negative experiences, fear of disrespectful treatment, or being given a blanket prohibition on fasting without well-informed explanations.
    b. Methods to Communicate with Patients About Fasting:
        i. Convey an empathetic, nonjudgmental tone and willingness to listen to the patient's concerns.
        ii. The discussion about Ramadan should occur well in advance, minimum of six to eight weeks prior, to allow for appropriate planning on managing their chronic disease state during that time. Some patients may interpret situations where clinicians don't cover the topic of fasting as an implicit approval to fast, and may interpret that it will not cause harm to the patient.
        iii. Avoid making statements such as, "Fasting is not good for you." This conveys to the patient a lack of understanding of the concept of fasting during Ramadan.
        iv. Avoid making the decision for the patient on whether or not they can fast. This can be taken negatively and make the patient feel you're taking control of their health. Instead, opt to have an open discussion about their plans for Ramadan. Ask your patient if fasting is important to them. Don't assume you know their opinion.

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V. Resources
    a. Resources for health care professionals
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        ii. Ras T, Holdman R, Matthews D. Ramadhan fasting for people living with chronic illness: A narrative literature review. S Afr Fam Pract (2004). 2024;66(1):e1-e6. Published 2024 Jan 31. doi:10.4102/safp.v66i1.5805
        iii. Managing medications during Ramadan fasting. Accessed February 26, 2024. https://sop.washington.edu/wp-content/uploads/Ramadan-and-Medications.pdf.
        iv. https://www.hamad.qa/EN/your%20health/Ramadan%20Health/Health%20Information/Pages/Dehydration.aspx
        v. https://sop.washington.edu/wp-content/uploads/Ramadan-and-Medications.pdf
    b. Resources for patients
        i. https://newsnetwork.mayoclinic.org/discussion/managing-your-health-during-ramadan-fasting/