

# Safe Feasting & Fasting

A Guide to Pre-Ramadan Diabetes Care

Issue 3



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# Safe Feasting and Fasting

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# Message from the President

South Asian Federation of Endocrine Societies (SAFES) for SAFES Newsletter



## Dr. Syed Abbas Raza

Consultant Endocrinologist/Diabetologist at Shaukat Khanum Cancer Hospital and Research Center and National Hospital, Lahore.

**President:** SAFES, 2017

**Founder and Past President:** American Association for Clinical Endocrinologist (AACE) Pakistan, 2015

**Past President:** Pakistan Endocrine Society (PES), 2010–2012

**Past Member Board of Directors:** AACE, 2003–2004

It gives me an immense pleasure to write and congratulate “Team SAFES” for taking another landmark step of publishing SAFES newsletter. These academic initiatives reflect the strength of SAFES in bringing together experts from across the globe on a single platform and gives an opportunity to share information among medical care providers of this region.

SAFES has been playing a leading role in bringing all stakeholders together in order to improve the care of patients suffering from diabetes and endocrine disorders. As President for SAFES, I feel privileged and honoured to be part of these great endeavours. In past, academic/research team from SAFES has been very active in publishing consensus development and guidelines, and now newsletter is yet another step in strengthening these efforts. Young authors/members are an integral part of this SAFES team and their contributions in all activities/publications of SAFES are instrumental in having SAFES voice heard across the world.

SAFES has the vision of moving together for improving the healthcare of this region and this newsletter will go a long way in achieving these goals. Researchers from SAFES member countries are contributing in the newsletter with full enthusiasm and commitment.

I do realise that efforts like these require a lot of time commitment from the editorial board. But I am fully confident that in very capable hands of Dr. Sanjay Kalra, this newsletter will not only be successfully launched but will become most sought-after publication. I want to convey my best wishes for a successful launch of this academic effort.





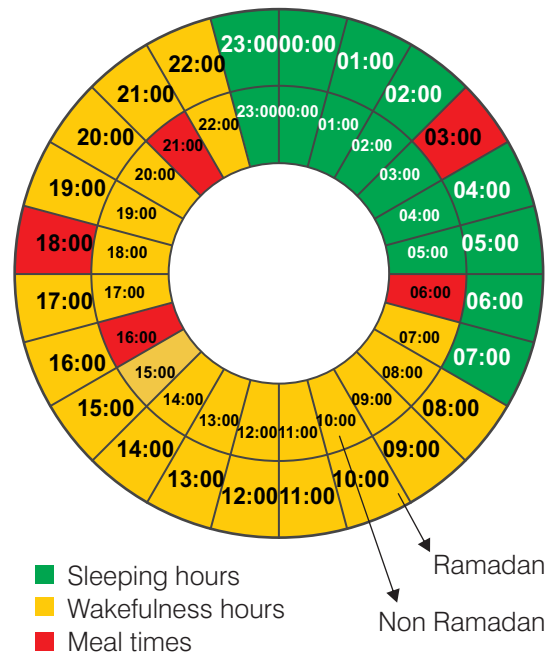
# Fasting During Ramadan

## Metabolic and hormonal changes during Ramadan fasting in diabetics<sup>1,2</sup>

In people with diabetes, physiological changes and the type of medication being taken to treat the condition can be associated with the development of complications such as hypoglycaemia and hyperglycaemia.

Understanding glucose metabolism, lipid profiles, circadian rhythms, sleep, and aspects of hormone physiology during Ramadan can help with the management of diabetes during Ramadan.

**Sleep:** The impact of Ramadan on sleep includes decreased total sleep time, delayed sleep, decreased sleep period time, and decreased rapid eye movement (REM) sleep duration. Sleep deprivation has been associated with decreased glucose tolerance.



**Figure 1: Comparison of sleep and meal patterns during Ramadan and non-Ramadan periods**



**Body weight:** A large proportion of caloric intake occurs during meal times in Ramadan. In some individuals a net energy excess can build up, leading to overall weight gain. However, this is not universal and indeed a meta-analysis of studies investigating the effects of Ramadan fasting on body weight reported a net weight loss among healthy fasting individuals.

**Glucose homeostasis:** During fasting, circulating glucose levels fall and insulin secretion is suppressed. Glucagon and catecholamine secretion is increased, stimulating glycogenolysis and gluconeogenesis, which then leads to an increase in blood glucose level.



**Metabolic parameters:** Leptin and adiponectin are hormones involved in the regulation of appetite, various metabolic pathways and insulin sensitivity. Changes in leptin and adiponectin levels observed during Ramadan may be due to changes in meal and sleeping patterns or due to the changes in cortisol circadian rhythm that have been reported during Ramadan.

**Calorie intake:** An increase in daily calorie intake during Ramadan has been seen especially at Iftar meal with excessive compensatory eating with increased quantities of sugary fluids, fried foods, and

The month of Ramadan can precipitate dramatic changes in meal schedule, sleep patterns and circadian rhythms.



carbohydrate-rich meals traditionally prepared which may contribute to weight gain and hyperglycaemia.

**Medication:** Patients who chose to fast should be deliberately advised to modify their treatment during Ramadan. Dose and timing adjustment to insulin and some oral hypoglycaemic agents, especially, sulphonylureas, may be necessary during Ramadan.

## Beneficial effects of Ramadan fasting on health<sup>2</sup>

**R**amadan fasting has numerous benefits on diabetic and healthy subjects. It induces favourable changes on body weight – a decrease in body fat percentage and waist circumference, lipid profile, metabolic parameters, blood pressure, reduces oxidative stress and inflammation, promotes cardiovascular disease benefits, improves brain function and boosts immunity.



# Motivational Interview



Aamir visits Dr. Singh for pre-counselling on diabetes care in occasion of Ramadan in a few days.

**Dr. Singh:** You're right on time this month! How is your health?

**Aamir:** I'm doing well, doctor. I've come for my follow-up and also, you mentioned the last time that you would counsel me on monitoring my diabetes during Ramadan.

**Dr. Singh:** Yes, Aamir; your reports look all good. This kind of consistency is required for maintaining blood glucose levels. For Ramadan, don't stop taking your medications or change it according to your meals. However, there will be some adjustments in the dosage and calorie intake of your food.

Do not consume a large amount of food or don't overeat. Eat food like bread, lentils and beans to make you feel less hungry as these take time to digest, absorb and ingest, keeping your body fuelled for more hours throughout the day. Fruit and vegetables, along with natural yoghurt, are recommended. Avoid sugary and carbonated drinks.

**Aamir:** Okay, is there anything else I should keep in mind?

**Dr. Singh:** I would recommend if you could download a diabetes logbook app where you can add the food item and quantity daily, this will help you know if you exceed your calorie intake level. You will also know which food items are high in calories.

I would want you to check your glucose levels before Suhur (Sehri), between 10 am and 11 am, then between 3 pm and 4 pm and finally 3 hours after Iftar.

**Aamir:** Why so, doctor?

**Dr. Singh:** Some major potential diabetes-related complications can occur if you eat more than /less than required or if you change your medications. Low blood glucose or excessively high blood glucose or even blood clots are likely to occur if you are too dehydrated, and weather plays a major role. Watch out for signs that could get you in trouble!

**Aamir:** Thank you, doctor, for letting me know. I will definitely follow these and will contact you in case of an emergency.

**Dr. Singh:** I'll be pleased to help you out anytime. Wish you the best!



# Healthy Living and Diabetes

## South Asia and Islam<sup>3</sup>

One of the world's largest concentrations of the Muslim population is situated in countries from South Asia. It covers vast territories that are not only home to cultures influenced by Hinduism. Besides these, Muslims makeup, a considerable group of population: 500 million people on the Indian Sub-continent profess the Islamic faith. The region encompasses almost one-third of the world's Muslim population and increases by 2% per year. The region has been forming a centre of Muslim theological, intellectual, and political as well as literary activities for centuries and still represents multifaceted strengths.



## Understanding complex carbohydrates<sup>4</sup>

Carbohydrates are tricky – complex carbohydrates such as lentils, beans, quinoa, brown rice and whole wheat pasta are released slowly, making a person feel satiated for a longer period of time. Simple carbohydrates, such as white bread, fruit juice, chocolate bars and other packaged goods will make them hungry sooner.

## Brisk walking<sup>5,6</sup>

It is suggested that walking after Taraweeh prayer (special evening prayer performed in Ramadan) is effective in losing weight and staying fit. It is a time when adequate meals and water is consumed to help during workout. One can consume juices and other liquids during the workout too. It is vital for people with diabetes to check their blood glucose before any activity; if it is above 200 mg/dL, they should consider not exercising.







## Laugh your worries away<sup>7, 8</sup>

A study from 2008 found that laughter caused subjects to experience lower levels of three stress hormones — cortisol, epinephrine and dopac.

It can help reduce blood pressure while also improving brain function. Cognitive neuroscientist, Dr. Scott Weems found that people exposed to comedy are better able to answer semantic associate's tasks.

In one study, such tasks were given to several groups of participants — those who watched a comedy video, those who engaged in light exercise and those who did neither. The participants who did neither answered two fewer questions than those who watched the comedy video and those who exercised only performed slightly better.

Cultivating stress management is a key component good mental health hygiene. Unchecked stress is a major contributing factor to illness. Making time for self-care is crucial to staying well in the long-term.

**Dr. Weems states,  
“Comedy is like mental  
exercise, and just as  
physical exercise  
strengthens the body,  
comedy pumps up the  
mind.”**

## Sodium-glucose co-transporter 2 (SGLT-2) Inhibitors: A new class of anti-diabetic medication<sup>9,10</sup>

The population-based epidemiology of diabetes and Ramadan showed that in 13 Islamic countries 43% of patients with type 1 diabetes and 79% of patients with type 2 diabetes decided to fast during Ramadan. This poses a challenge to the glycaemic control in patients.

SGLT-2 inhibitors unique mode of action does not cause hypoglycaemia and improve glycaemic control by decreasing renal re-absorption of glucose. Inhibition of SGLT-2 leads to the decrease in blood glucose due to the increase in renal glucose excretion. SGLT-2 inhibitors are efficacious with glycated haemoglobin (HbA1c) reduction ranging from 0.5% to 1.5%, promote weight loss and complement the action of other anti-diabetic agents.

A recent survey of physicians' views on the use of SGLT-2 inhibitors during Ramadan for the treatment of patients with type 2 diabetes reported that the majority (70.6%) considered them suitable and safe for some patients. However, they should not be taken by elderly, patients with renal impairment, hypotensive individuals or those taking diuretics.





# Dates for Diary



## **78<sup>th</sup> Scientific Sessions of American Diabetes Association**

Date: June 22–26, 2018

Location: Orlando, Florida

Objective: Over the course of five days, attendees will receive exclusive access to more than 2,800 original research presentations, take part in provocative and engaging exchanges with leading diabetes experts and expand professional networks with almost 13,000 professional attendees from around the world.



## **54<sup>th</sup> Annual Meeting of the European Association for Study of Diabetes**

Date: October 1 – 5, 2018

Location: Berlin, Germany

Objective: The meeting will provide the most exciting insights into the recent discoveries and researches regarding all aspects of diabetology, which will be shared with more than 15,000 delegates from over 130 countries.



## **The Society for Endocrinology (SFE) BES Conference**

Date: November 19–21, 2018

Location: Scottish Event Campus (SEC), Glasgow

Objective: Attracting world-class international speakers, SFE BES includes plenary lectures, including the society's medal lectures, symposia, clinical management workshops, meet the expert sessions, nurses' sessions and a clinical debate.



## **53<sup>rd</sup> Society for Endocrinology, Metabolism and Diabetes of South Africa (SEMDSA) Congress – 18<sup>th</sup> International Congress of Endocrinology**

Date: December 1-4, 2018

Location: The Westin Cape Town, Cape Town, South Africa

Objective: The programme organising Committee is currently putting together a stimulating programme including cutting-edge academic endocrinology for basic scientists and clinicians, as well as practical clinical sessions empowering doctors with the knowledge to optimise care for their patients with endocrine disorders.



## **46<sup>th</sup> Annual Meeting of Research Society for the Study of Diabetes in India**

Date: November 22 – 25, 2018

Location: Ahmedabad

Objective: This conference will be a great chance for innovative and new ideas to be heard and discussed. The conference will enable us to advance towards our common goals of preventing diabetes and improving the quality of life for people living with diabetes around the globe.

## Diabetic foot care in Sri Lanka – A way forward

Source: Karuppiyah D, Weerakkody M, Cooray S, *et al.* *Sri Lanka Journal of Diabetes Endocrinology and Metabolism*. 2018;8 (1):1–2.

The Sri Lanka Diabetes and Cardiovascular Initiative (SLDC) set new goals for diabetic foot care, which includes:

- Establishing foot screening service; a tool for screening people with diabetic foot problems. Eral centres (Diabetic clinic –TH Batticaloa, Kandy and Colombo) are now pilot testing the tool. Nearly 58,000 patients were screened for diabetes related foot problems.
- Establishing multidisciplinary foot care service for managing diabetic foot problems with specialists.
- Development of national guideline on diabetic foot disease and referral and back referral pathways.

The field of diabetic foot care involves many different professionals and the patient presentations also diverse. Successful management of diabetic foot problem needs the expertise of multi-disciplinary team with implementation of universal good care. This involves good attitude of healthcare professionals, patients and a healthcare system

## Free dialysis in Nepal: Logistical challenges explored

Source: John MCGEE, Pandey B, Maskey A, *et al.* *Haemodialysis International*. 2018; 00:00–00

Due to a modest health care budget, lack of transportation infrastructure and geographic barriers, Nepal's Ministry of Health is challenged to provide equitable healthcare services to its entire population. To decrease patient suffering and reduce overall mortality associated with kidney disease, a multistep approach is suggested. This includes:

- A special focus on screening and early detection of disease and interventions for prevention or optimal management of acute kidney injury.
- The formation of a chronic kidney disease registry.
- The expansion of the total number of nephrologists and dialysis centres.
- A focused effort to provide dialysis in more remote areas.
- The continued support for the expansion of kidney transplant medicine in Nepal.

## Diabetes in South Asians: Phenotype, Clinical Presentation and Natural History

Source: Unnikrishnan R, Gupta PK and Mohan V. *Curr Diab Rep*. 2018;18(6):30.

The diabetes epidemic in South Asia affects, directly or indirectly, more than a fourth of humanity. The societal and economic costs of the disease and its complications are correspondingly immense. Research over the past several decades has uncovered a great deal of information about the nature of diabetes in South Asians and its peculiar features. While much remains to be learned, the immediate challenge is to translate current knowledge into action and ensure that the epidemic is halted in its tracks or at least slowed down, so that South Asia will be spared of the epithet "Diabetes Capital of the World."

## Hypoglycaemia among Insulin-Treated Patients with Diabetes: Southeast Asia Cohort of IO HAT Study

Source: Pathan F, Goh SY, Rudijanto A, *et al.* *Journal of the ASEAN Federation of Endocrine Societies*. 2018;33(1)2308-118.

In the study, patients on mixed (both short- and long-acting) insulin regimens had the highest rates of any hypoglycaemia prospectively in both type 1 and type 2 diabetes, and hypoglycaemia rates generally increased with diabetes duration. Hypoglycaemia increased healthcare utilisation and reduced productivity. There is a need for unique guidelines, specific to the Southeast Asian population, which can help improve diabetes management and improve patient outcomes in those already diagnosed.

# May 25

## World Thyroid Day



The members of Thyroid Federation International decided to create a “World Thyroid Day” in Leipzig, Germany, in September 2007. They choose the date of May 25<sup>th</sup>, marking it as a day to promote awareness and understanding of thyroid health and the advances made in treating thyroid diseases.<sup>13</sup>

World Thyroid Day was established in 2008 as part of a campaign led by the European Thyroid Association and the American Thyroid Association.

World Thyroid Day highlights five major goals to:<sup>13</sup>

- Increase awareness of thyroid health
- Promote understanding of advances made in treating thyroid diseases
- Emphasise the prevalence of thyroid diseases
- Focus on the urgent need for education and prevention programmes
- Expand awareness of new treatment modalities

### Key notes<sup>14</sup>

Thyroid hormones play a very important role in healthy growth and development during childhood, impacting metabolism and the nervous system and organ functions. Therefore, it is vital that parents understand the signs and symptoms of thyroid disorders. It is also important to remember that treatments are available and that early intervention will help to avoid any long-term issues or complications.

**An underactive thyroid gland (hypothyroidism) is where the thyroid gland doesn't produce enough hormones.**

Common signs of an underactive thyroid are tiredness, weight gain and feeling depressed. A high level of thyroid stimulating hormone and a low level of thyroxine in the blood could mean that the patient has an under active thyroid.



### South Asian Inspiration

The Sri Lankan national cricket team nicknamed The Lions achieved considerable success beginning in the 1990s, rising from underdog status to winning the Cricket World Cup in 1996. Since then, the team has continued to be a force in international cricket. The Sri Lankan cricket team reached the finals of the 2007 and 2011 Cricket World Cups consecutively. They won the ICC World Twenty20 championship in 2014.

Dinesh Chandimal, current captain for Sri Lanka in Test cricket has shown immense potential in the short time that he has spent with the Sri Lankan team. A hard-hitting wicket keeper-batsman, Chandimal has played some match-winning knocks and has grabbed the attention of the cricketing world. Many in Sri Lanka have suggested that Chandimal is a player for the future and has got the potential to adjust his style to suit all forms of the game.<sup>15</sup>

Under his captaincy, Sri Lanka chased a record breaking total of 193 in the first match and won the match by 6 wickets for the 1st T20I (N), Sri Lanka tour of Bangladesh at Dhaka, Feb 2018.<sup>16</sup>



# References

1. International Diabetes Federation (IDF). Diabetes and Ramadan: Practical Guidelines. 2016. Available at: <https://www.idf.org/e-library/guidelines/87-diabetes-and-ramadan-practical-25>
2. Zargar AH and Kalra S. Ramadan & Diabetes Care. JP Medical Ltd, 2013;200.
3. Universitat erfurt. Muslim Cultures in South Asia. Available at: <https://www.uni-erfurt.de/en/religious-studies/chair-of-muslim-cultural-religious-history/profile/key-research-focus/muslim-cultures-in-south-asia/>
4. Chai C. 7 nutrition tips for Ramadan fasting. Available at: <https://globalnews.ca/news/1454037/7-nutrition-tips-for-ramadan-fasting/>
5. Altaf S. Is it safe to exercise during Ramadan? Here's the answer. Available at: <https://www.khaleejtimes.com/ramadan-2017/ramadan-health/exercise-or-not-during-ramadan>
6. Experts weigh in on best times for exercise in Ramadan. Available at: <http://www.jordantimes.com/news/local/experts-weigh-best-times-exercise-ramadan>
7. Eheintl-com. 10 stress management techniques you need to know. Available at: <https://eheintl.com/stress-management/>
8. Matthews K. 6 Powerful Health Benefits of Laughter. Available at: [https://www.huffingtonpost.com/kayla-matthews/6-powerful-health-benefit\\_b\\_6445086.html](https://www.huffingtonpost.com/kayla-matthews/6-powerful-health-benefit_b_6445086.html)
9. Kelwade J, Sethi BK, Vaseem A, et al. Sodium Glucose Co Transporter 2 Inhibitors and Ramadan: Another String to the Bow. *Indian Journal of Endocrinology and Metabolism*. 2014;18(6):874–875.
10. Hassaneina M, Al-Arouj M, Hamdy O, et al. Diabetes and Ramadan: Practical guidelines. *Diabetes Research and Clinical Practice*. 2017;126:303–316.
11. Kalra S, Khandelwal D, and Aggarwal S. “Thyroid Vigilance.” *Indian Journal of Endocrinology and Metabolism*. 2017;21(4):492–494.
12. Wu P. Thyroid Disorders and Diabetes. Available at: <https://www.diabetesselfmanagement.com/about-diabetes/general-diabetes-information/thyroid-disorders-and-diabetes/>
13. Thyroid Federation International. Available at: <http://www.thyroid-fed.org/tfi-wp/history-wtd-itaw/>
14. Thyroid aware. Available at: <https://www.thyroidaware.com/en/forparents.html>
15. Dinesh Chandimal. Available at: <http://www.cricbuzz.com/profiles/6245/dinesh-chandimal#profile>
16. Kusal Mendis, Thisara Perera overpower Bangladesh. Available at: <http://www.espnricinfo.com/series/18527/report/1130746/>