

Necessity for an Updated Guidelines in People with Diabetes Fasting Ramadan

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Especially for the last two decades, it had been reported by the epidemiological studies that many people with diabetes observe Ramadan intermittent fasting (RIF) [1-4]. Interestingly during the worldwide curfew during Covid 19 pandemic, intention fasting rate was even increased for both type 1 and type 2 diabetes [5-7]. Actually, physiological benefits of fasting were reported affecting many organs and systems affirmatively [8]. RIF, meanwhile is an religious observance a month long experience, every year practice, abstaining from food and drink and sexual intercourse from dawn until dusk [9,10]. While other intermittent fastings are individual experiences, RIF is a society gathering so that during breaking the fast which is called 'iftar' in the evening meal (when the sun sets), it turns into festival with celebrations that will give rise to skyrocket high glucose numbers (hyperglycaemia) in some with sugary drinks, deserts having high glycaemic index. Even before the guidelines, fasting with diabetes became concern by many investigators regarding hypoglycaemia [11], hyperglycaemia, dehydration and thrombosis [10]. Although acute complications such as diabetic ketoacidosis (DKA), hyperosmolar hyperglycaemic non-ketotic (HHNK) state are rare, considerable number of people experience both hypoglycaemia (glucose less than 70mg/dl) and significant hyperglycaemia (glucose higher than 300 mg/dl) which are also taught as a reason for ending the fast in the pre-Ramadan education sessions [12-14]. Hypoglycaemia is seen mostly in the afternoon before iftar, and hyperglycaemia after iftar during feasting [5,6,11]. While in the beginning many healthcare professional used their own judgements to tell people with diabetes that they may fast or not, today we have opinions of diabetologists throughout the world –not only from the Middle East and North Africa (MENA), South and Southeast (SE) Asia- according to evidenced based medicine gathered from anti-diabetic medications used during fasting. In 2017, for the very first time International Diabetes Federation Diabetes and Ramadan (IDF-Dar) Alliance Group [15] published guidelines [10] which classifies fasting mild or moderate or severe risky according to the clinical data. Five years later [16], an update became necessary regarding not only for the new medications arised in the diabetes era, but outcomes from the specific studies were also collected in collaboration with even populations living in not muslim pre-dominated countries (Canada, USA, UK, Australia, India, France, Germany,

etc). Although sulphonylureas and insulins are the most offending agents leading to hypoglycaemia [10,11,16-19], not all insulins are the same, such as second generation long acting insulin analogues (insulin glargine U300), [18,19]. Apart from this while people with type 1 diabetes who are on intensive insulin regimens are more risky, the ones with artificial intelligence provided closed loop insulin pumps with continuous glucose monitoring systems experience less hypo during RIF [20-22]. Many other classes of diabetic medications were found to be safe such as the ones providing incretinomimetic efficacy (dipeptidyl peptidase IV inhibitors and glucagon like peptide 1 receptor agonists) [17,23-25]. and sodium-glucose cotransporter-2 inhibitors [25]. The latest DaR guideline (2021) was informative [16] but during the time passing by, lots of new agents came into market and studies multinationally organized provided extra evidence so that necessity occurred for an updated guideline. With the risk stratifications determined via 14 criteria (in the previous guideline) [16]. included type of diabetes, duration of diabetes, frequency of hypoglycaemia, level of HbA1c, medications used for glucose, frequency of Self Monitoring of Blood Glucose (SMBG), having recent acute emergencies such as DKA or hyperglycaemic hyperosmolar non-ketotic (HHNK) state, stable/unstable heart condition, glomerular filtration rate (GFR) less than 60ml/min, having pregnancy, frailty and/ having age more than 70, heavy physical duty, previous Ramadan experience, fasting equal or more than 16 hours. Of the criteria mentioned above, sum of the points over 6 were explained as 'do-not-fast'. Regardless of all, each of the following is accepted to be enough not to allow fast for people with diabetes: Unawareness of hypoglycaemia, unstable cardiac state, GFR less than 30 ml/min, pregnancy without normal glycaemic values, frailty with age over 70 having loss of cognitive functions. Availability of newer medicine and close glucose monitoring opportunities –both of them causing less hypoglycaemia- are adding life-span to people with diabetes may need re-calculation of the risk stratifications, accordingly. Experiences with the new insulin pumps who observe RIF are also adding many to the future guidelines. Although pregnant people even if not having diabetes are exempt from fasting [10], growing decisions are -on the side of- not letting these people to fast even if glycaemia 1 and 2hr postprandially are in the range of desired levels. As a

last, one of the latest paper announced number of microvascular complications to be determinant of acute complications which should be paid attention for future RIF experiences [26].

Conclusion

Despite huge appreciation to fast Ramadan, healthcare professionals must determine each people with diabetes respectfully with the updated guidelines. Education of those willing to fast as well as their caregivers and the health personal as well (training the trainers program) would decrease acute complications.

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