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Whom not to allow fast for people with diabetes during Ramadan

Abstract

Fasting is much appreciated in people with diabetes, however Ramadan intermittent fasting is a special observance being performed one month duration each and every year in muslim populations for religious purposes. International Diabetes Federation Diabetes and Ramadan (*IDF-DaR*) Alliance group established several guidelines in order to determine risk stratification in this group with respect to the evidence based published data. Epidemiologic reports indicate that both hypoglycaemia and hyperglycaemia are increased. Meanwhile structured pre-ramadan education for people who were willing to fast had less occasions of aforementioned acute complications. Guidelines today advice healthcare professionals not to allow fast for their patients with diabetes if each of the following does occur: unawareness of hypoglycaemia, unstable cardiac condition, GFR less than 30 ml/min, pregnancy, frailty with age over 70 and having loss of cognitive functions.

Keywords: Diabetes, fasting, ramadan, hypoglycaemia, hyperglycaemia, guidelines

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Introduction

Fasting had been popular for many with diabetes since obesity is common in this population. Meanwhile for religious purposes, this exercise is much more different since having extra pounds may not become a major concern during one month long holy month Ramadan Journey where fasting converts into feasting[1,2] with joyful celebrations during iftar (meal at sunset as dinner). Despite sickness exempts muslim people with diabetes for fasting,[3] data from epidemiological studies carried out with multi-national countriers -*some approaching even 20*- over 80% were willing to fast[4] while latest evidence found this prevalance even higher.[5–9] Hypoglycaemia and hyperglycaemia are the most common seen acute complications, although both diabetic ketoacidosis (*DKA*) and hyperosmolar non-ketoketotic state/coma are rare.[1,2]

International Diabetes Federation Diabetes and Ramadan (*IDF-DaR*) Alliance group[10] published consensus statement 2016 taking into consideration of views and perspectives of diabetologists all around the World for both determination of risk factors for fasting with diabetes as well as whom to say not to allow fast.[1] Accumulating evidence with newer drugs[11–15] who exercise fasting gave rise to publish another guideline five years later.[2] While the most experienced hypoglycaemia is seen in the afternoon before iftar which is the longest period of fasting time, checking blood glucose either through finger-prick testing or continuous glucose monitoring system *(CGMS)* devices are also updated accordingly to the Ramadan fasting period, such as performing monitoring the glucose during before sahoor (*early morning breakfast before starting the fast*), after sahoor, in the afternoon (*before iftar*), after iftar and whenever the patient himself or herself feel unwell.[1,2] Apart from this Ramadan structured education had been shown to decrease the risk of hypoglycaemia leading to safe fast.[16–24]

Meanwhile longer duration of fasting especially in the summer Ramadan (respectfully to the lunar calender), countries located in the northern hemisphere will be fasting more than 16 hrs which will add extra risk score -such as Canada- as a comparison to inhabitants of countries closer the the equator zone.[11,25] This will also not only increase the risk of hypoglycaemia[26] *–that may present even with anxiety in some*[27]- but also dehydration that may provoke pre-renal azotemia for the vulnerable kidneys.[2,25,28]

As a respect to recent guidelines which is known as IDF-DaR 2021 guidelines[2] risk stratifications are determined with 14 criteria which are 1.Type of diabetes, 2. Duration of diabetes, 3. Frequency of hypoglycaemia, 4. Level of HbA1c, 5.Medications used for lowering the blood glucose, 6. Frequency of Self Monitoring of Blood Glucose (*SMBG*), 7. Having recent acute emergencies such as DKA. 8. Heart condition (*stable/unstable*), 9. Kidney function (*Lower GFR*), 10. Pregnancy, 11. Frailty with age of 70, 12. Heavy physical work, 13. Previous Ramadan experience, 14. Fasting our equal or more than 16 hours. Each criteria is also given points and when sum over 6 points are considered as *'not-to fast'*. Aforementioned parameters are evidence based and the following each solely is accepted to be the reason not allow the fast. These are; a.Unawareness of hypoglycaemia, b. Unstable cardiac condition, c.GFR less than 30 ml/min, d.Pregnancy, e. Frailty with age over 70 having loss of cognitive functions.

Recent evidence suggest avoidance of fasting in diabetics with advanced chronic liver disease and during the first year of liver transplantation[29] but not compensated cirrhosis (Child-Pugh A).[30] For those with type 1 diabetes[31,32] on complex insulin regimens,[14,15] diabetologist should be cautious as well, although observance with AI equipped new technologies such as closed wired insulin pumps provided safer fasting in considerable number of people.[33] Newer pills and injectables for diabetes management provided promising outcomes during Ramadan intermittent fasting,[11–15,30,33–35] even for the elderly.[7] Individualized dose adjustments are crucial before fasting through Pre-Ramadan education programs.[16,19–21,34] While the third IDF-DaR guideline is on its way, recent publications emphasize the significance of number of microvascular complications at the time Ramadan fasting is being observed.[36]

Conclusion

In conclusion, many people with diabetes observe religious fasting. Consensus statements with updated guidelines when associated with pre-Ramadan structured education will help guide healthcare

professionals during the follow-up of these observance and as well whom not to allow fast.

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Conflicts of interest

The author declares that there are no conflicts of interest.

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