



Doctors' Perceptions of Artificial Intelligence in Managing Diabetes during Ramadan: An Exploratory Cross-Sectional Survey

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J Diabetes Endocrine Practice 2026;9:12–19.

Abstract

Background Ramadan fasting (RF) presents unique challenges for people with diabetes. Artificial intelligence (AI) has the potential to enhance safety and personalize care, but little is known about doctors' readiness to adopt such tool in this context.

Objectives This article explores doctors' knowledge, attitudes, and practices regarding the use of AI in managing diabetes during Ramadan.

Materials and Methods An online exploratory cross-sectional survey of a convenience sample of 134 doctors was conducted between July 18 and August 31, 2025, using a structured questionnaire distributed through professional networks interested in RF. Items assessed demographics, familiarity with AI, clinical attitudes, and perceived barriers to the use of AI. Descriptive analyses were performed; no hypothesis testing was undertaken.

Results Of 134 respondents, 60.4% were endocrinologists and 74.6% were senior consultants. While 62.7% had received Ramadan-specific diabetes training, only 23.9% had training in AI. Familiarity was highest with continuous glucose monitoring tools (55.2%) and automated insulin delivery systems (35.1%), yet 38.8% reported no knowledge of AI applications. Although 73.9% agreed AI could enhance safety during fasting, only 48.5% felt confident using AI for decision-making. Barriers included affordability (59.7%), limited access (56.0%), and lack of training (54.5%). Over a quarter of respondents perceived clinical benefits. Most respondents (69.4%) expressed interest in AI training.

Conclusion Doctors recognize AI's potential to support safe fasting but face substantial knowledge and training gaps. Structured education, improved access, and culturally sensitive integration are urgently needed to enable wider adoption of AI in Ramadan-focused diabetes care.

Keywords

- ▶ artificial intelligence
- ▶ diabetes mellitus
- ▶ Ramadan fasting
- ▶ physician attitudes
- ▶ continuous glucose monitoring
- ▶ clinical practice

Introduction

Ramadan fasting (RF) is an important religious obligation for Muslims. However, it poses considerable health challenges

for individuals with diabetes due to prolonged periods of fasting, altered meal timings, and changes in sleep patterns.^{1,2} These changes may increase the risk of hypoglycemia, hyperglycemia, dehydration, and ketoacidosis if not

article published online
November 21, 2025

DOI <https://doi.org/10.1055/s-0045-1813653>.
ISSN 2772-7653.

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managed carefully. While evidence-based guidelines such as the International Diabetes Federation-Diabetes and Ramadan Alliance (IDF-DAR) practical guidelines provide stratified risk assessments and structured care models for Ramadan-focused diabetes management,³ the integration of novel technologies, including artificial intelligence (AI), into these models remains underexplored.^{4–6}

AI has emerged as a transformative tool in diabetes care, offering applications such as continuous glucose monitoring (CGM) with predictive alerts, automated insulin delivery (AID) systems, and machine learning-based risk calculators for glycemic variability. These tools have demonstrated efficacy in improving glycemic control and reducing complications during RF in both type 2 diabetes (T2D) and type 1 diabetes (T1D) populations. However, the successful implementation of AI in clinical care requires not only technological readiness but also clinician awareness, training, and acceptance.^{4–6}

Several studies have examined the use of AI-supported applications for managing diabetes.^{7–11} AI-based machine learning models were used to predict glucose variability and hypoglycemia risk in patients with T2D on a multiple drug regimen who fast during Ramadan in the PROFAST-IT Ramadan study.⁷ Also, recent studies evaluating AID systems have demonstrated improved safety and glycemic outcomes during Ramadan across adolescents, adults, and pediatric populations.^{8–11} These findings highlight the promise of AI but underscore the need to understand clinicians' readiness to adopt such tools.

Several surveys have examined health care providers' general attitudes toward diabetes management during the Ramadan period.^{12,13} Only limited data exist related to AI in this specific context.¹⁴ Understanding these aspects is crucial for identifying gaps in implementation, training needs, and potential barriers, such as cost, regulatory concerns, and cultural acceptability. This is the first survey focusing specifically on physician perceptions of AI in care during Ramadan.

Materials and Methods

Study Design and Setting

An exploratory, descriptive, cross-sectional survey was conducted to assess doctors' knowledge, attitudes, and practices (KAP) regarding the use of AI in managing diabetes during RF. The survey was administered online from July 18 to August 31, 2025.

Target Population and Recruitment

A convenience sample of doctors with an interest in diabetes care, specifically those with a focus on diabetes management during Ramadan were targeted. A contact list was compiled from professional mailing groups and networks were used to ensure a basic understanding of the subject. Invitations were distributed via email and professional messaging groups. Because the survey relied on convenience sampling within these networks, the findings may overrepresent doctors who are already engaged or interested in this field.

Survey Instrument

The descriptive questionnaire was developed following a literature review on AI applications in diabetes care during Ramadan, but no formal psychometric validation was undertaken. The instrument comprised multiple-choice and Likert-scale questions covering four domains: (1) demographics and professional background, (2) knowledge and awareness of AI tools, (3) clinical attitudes and practices, and (4) perceived barriers and training needs. Additional open-ended questions elicited narrative responses regarding perceived benefits, concerns, and suggestions for implementing AI. The full questionnaire text and layout is provided in ► **Supplementary Table S1**.

Survey Administration

The questionnaire was hosted on Google Forms, a secure, Web-based platform that ensures data privacy and confidentiality. An introductory page explained the purpose of the study and requested informed consent. The survey link was distributed with two reminder messages during the study period. Responses were collected anonymously, and no personal identifiers were stored. All completed responses were included. The Google Forms tool only captures full responses and does not collect data on incomplete responses or nonresponders.

Data Management and Analysis

Responses were automatically collated in electronic format for analysis. Descriptive statistics (frequencies and percentages) were generated for categorical variables, using item-level denominators to account for missing responses. Open-text responses were reviewed and summarized thematically; however, no formal qualitative coding framework was applied. Given the exploratory nature of the study, no hypothesis testing or subgroup analyses were undertaken.

Ethical Considerations

The study was deemed to carry no risk as it involved an anonymous survey of doctors on a nonsensitive topic. A General Data Protection Regulation statement was included in the survey, and specific ethics approval was not sought. All participants provided electronic informed consent prior to participation.

Results

Respondents' Demographic and Professional Profiles

A total of 134 doctors completed the survey. The largest proportion of respondents was from the Arabian Gulf region (33.6%), followed by the Middle East (23.1%), North Africa (14.2%), Europe and North America (14.9%), South East Asia (11.9%), and sub-Saharan Africa (2.2%). The top reporting countries were Türkiye ($n=28$), the United Arab Emirates ($n=22$), Malaysia ($n=14$), Saudi Arabia ($n=12$), Tunisia ($n=11$), Jordan ($n=8$), Iraq ($n=7$), and the United Kingdom ($n=7$). Nearly three-quarters (74.6%) were senior consultants, 14.9% were mid-grade doctors, and 10.4% were

trainees. Most specialized in adult endocrinology (60.4%), with internal medicine (22.4%) and family medicine (13.4%) also represented. The majority worked in tertiary academic centers (67.2%) and the public sector (76.9%). Two-thirds had more than 10 years of specialty experience. While 62.7% had received Ramadan-specific diabetes training, only 23.9% had training related to AI.

Knowledge

Familiarity with AI tools was mixed. CGM with predictive alerts was the most recognized (55.2%), followed by AID systems (35.1%), machine learning-based risk calculators (20.1%), and AI-powered decision support systems (14.9%). Over one-third (38.8%) reported no familiarity with any AI applications (►Fig. 1). Awareness of AI technologies showed a similar trend, with 55.0% reporting awareness of CGM, 48.9% of AI systems, and 45.8% of risk calculators. However, only 19.1% had heard of machine learning predictive tools,

while 26.0% were unaware of any such technologies (►Fig. 1).

Regarding accuracy, 47.0% believed that AI predicted both hypo- and hyperglycemia equally, 20.9% favored the prediction of hypoglycemia, and 26.9% were unsure (►Fig. 2). When asked which patient group benefits most, 41.0% cited equal benefits for T1D and T2D while 35.8% favored T1D. Only 45.5% were aware of guidelines recommending the use of AI during Ramadan.

Attitudes

Overall, 73.9% agreed that AI enhances safety during fasting; however, less than half (48.5%) felt confident in using AI tools for decision-making. Perceptions of patient acceptance were mixed: 40.3% believed patients were receptive, while 39.6% were neutral. On cultural considerations, 20.1% felt that religious beliefs might conflict with AI, though most were neutral (39.6%). Just under half (45.5%) agreed that AI

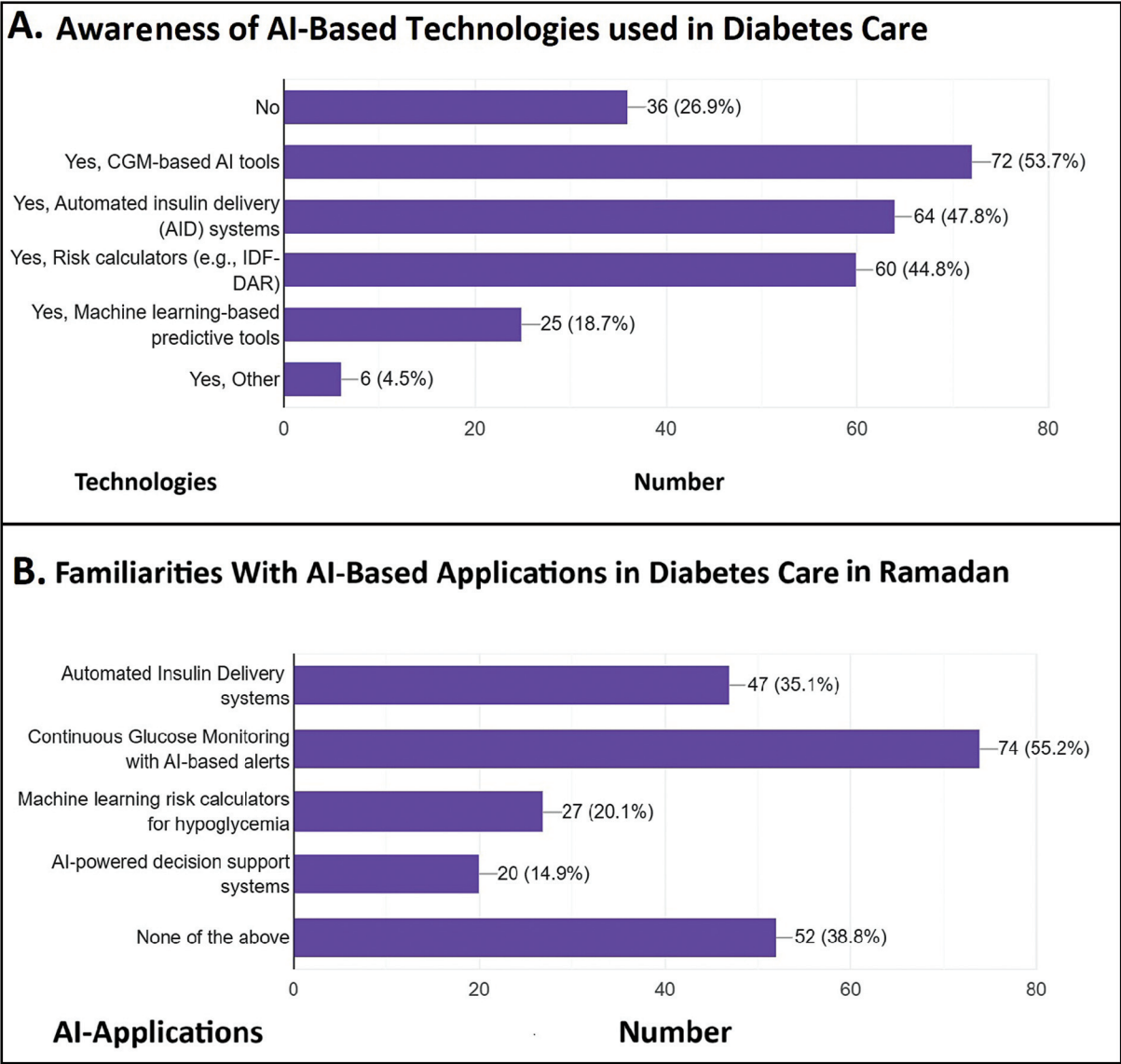


Fig. 1 Respondents' awareness of existing artificial intelligence (AI)-based technologies used in diabetes care in general (A) and their familiarity with AI applications with potential for diabetes care during Ramadan (B). Responses are not mutually exclusive. The graphic displays absolute numbers and labels indicating the percentage for each response.

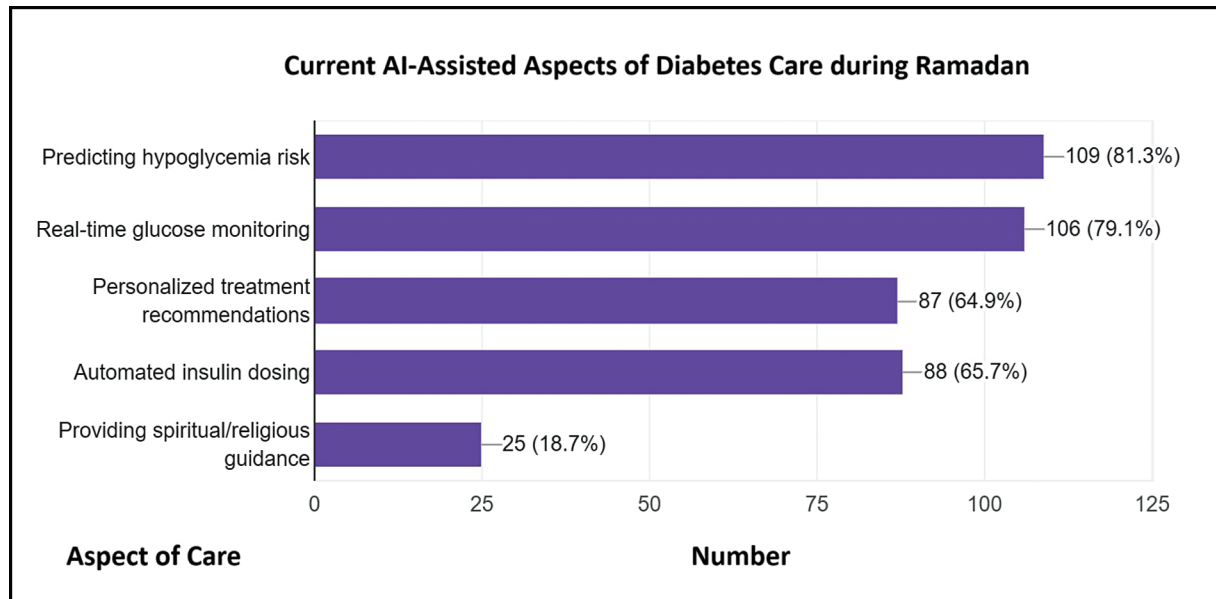


Fig. 2 Respondents' perception of the potential applications of artificial intelligence (AI) during Ramadan. Responses are not mutually exclusive. The graphic displays absolute numbers, accompanied by labels indicating the percentage for each response.

respects patient autonomy, while 40.3% were undecided (► Fig. 3).

Clinical Practices and Barriers

In clinical practice, 26.9% reported often recommending AI tools, 32.1% sometimes, 17.9% rarely, and 9.9% never, while others considered AI irrelevant to their setting. Only 28.4% reported direct clinical benefits, while 41.0% did not observe any. Barriers were prominent, with affordability (59.7%), limited access (56.0%), and insufficient training (54.5%) most frequently cited. Additional concerns included patient

resistance, regulatory hurdles, and cultural acceptability (► Fig. 4).

Thematic analysis of open-ended responses reinforced these findings. Doctors most often highlighted the prevention of hypoglycemia and improved safety, followed by better insulin titration, improved glycemic control, and postprandial management. Others emphasized the importance of patient empowerment and confidence, with AI tools facilitating greater self-awareness and independence during fasting (► Tables 1 and 2). A smaller number cited benefits for clinical decision-making, particularly through the use of risk

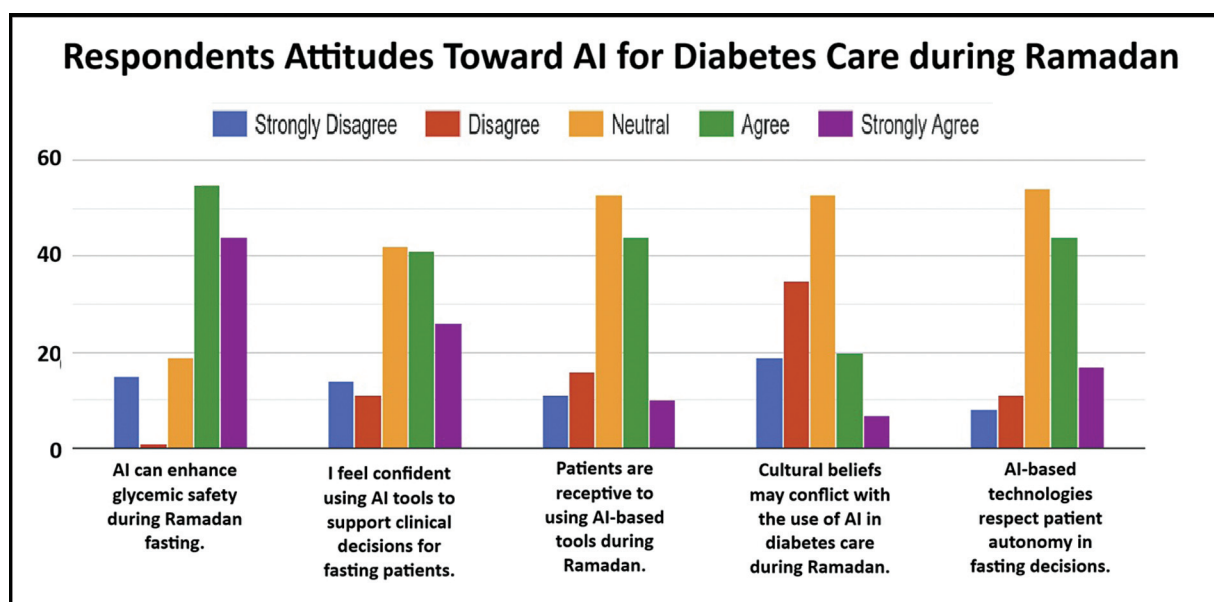


Fig. 3 Respondents' attitudes to adopting artificial intelligence (AI) in diabetes care during Ramadan. Responses are not mutually exclusive. The graphic displays absolute numbers, accompanied by labels indicating the percentage for each response.

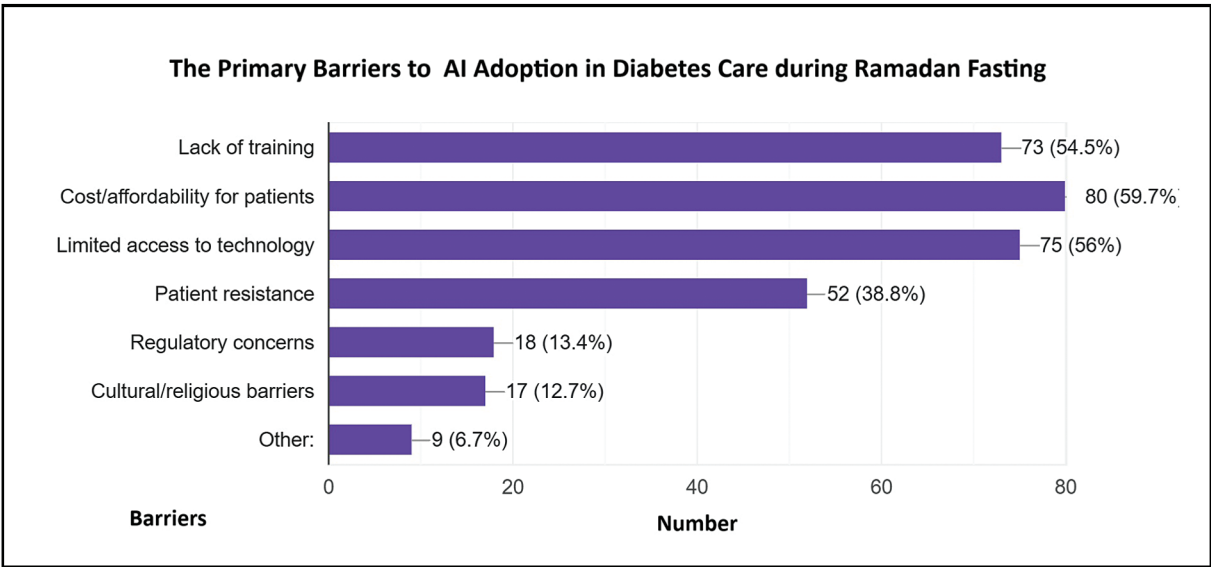


Fig. 4 Respondents’ perceived barriers to adopting artificial intelligence (AI)-assisted applications with potential for diabetes care during Ramadan. Responses are not mutually exclusive. The graphic displays absolute numbers, accompanied by labels indicating the percentage for each response.

calculators. One illustrative example described a 32-year-old woman who safely completed Ramadan using AI-based glucose monitoring (► **Tables 1 and 2**).

Support and AI-Training Needs

Most respondents (61.1%) felt training was needed across all professional groups, including doctors, nurses, and pharmacists. Preferred training formats included workshops (71.6%), simulation-based approaches (67.2%), and online modules (62.2%). Peer mentorship (43.3%) and culturally adapted

materials (30.6%) were also valued. Nearly 70% expressed a strong interest in participating in structured training, with an additional 25.4% open to considering it.

Discussion

This study provides unique insights into doctors’ KAP regarding the use of AI in managing diabetes during RF. While the majority of respondents recognized the potential of AI to enhance glycemic safety and improve clinical decision-

Table 1 Narrative summary of the perceived greatest potential benefit of AI in managing diabetes during Ramadan, their concerns and reservations about using AI in this context, and their suggestions for improving AI implementation in diabetes care during Ramadan

Theme	N	Illustrative Quotes
Hypoglycemia prevention/reduction	18	“Reduced risk of hypoglycemia”; “CGM helped markedly in predicting hypoglycemia and titrating insulin doses”; “Hybrid closed loop systems prevented hypoglycemia during fasting.”
Improved glycemic control and treatment adjustment	10	“Better adjustment of the insulin dosing during using Freestyle Libre sensors”; “Excellent glycemic control during Ramadan”; “To prevent hypoglycemia, to adjust doses of insulin and other hypoglycemic medications.”
Patient empowerment and confidence	7	“Healthy life and feel more awareness”; “CGM makes the patient aware about their glucose pattern, hence lowers the risk of hypoglycemia”; “AID and CGM gave confidence to many of my patients with T1D to fast safely.”
Decision-support tools (risk calculators, counseling)	5	“Risk calculator can guide education and treatment adjustment”; “Risk calculator improves RF counseling”; “Risk calculator and CGM help to minimize emergencies.”
Case-specific anecdote	1	“A 32-year-old woman with diabetes... used an AI-based glucose monitoring tool that helped us adjust her medication safely. She completed Ramadan without complications.”

Abbreviations: AI, artificial intelligence; AID, automated insulin delivery; CGM, continuous glucose monitoring; T1D, type 1 diabetes.

Table 2 Reported clinical benefits of AI in diabetes care during Ramadan by those who identified with observed benefits from AI use in diabetes care during Ramadan

I. Prompt: What are the perceived greatest potential benefits of AI in managing diabetes during Ramadan? Responses: - Ensuring safety during fasting by reducing the risk of hypoglycemia and hyperglycemia. - Personalized care through optimized medication, insulin dosing, and dietary guidance. - Enhanced patient self-management and independence in decision-making. - Real-time monitoring and alerts to prevent complications like hypoglycemia. - Predictive tools to foresee glucose fluctuations and prevent adverse events. - Empowerment of patients to fast safely without constant medical supervision.
II. Prompt: What are the concerns and reservations about using AI in this context, along with their suggestions for improving AI implementation for diabetes care in Ramadan? Responses: - Cost and accessibility of AI tools, including affordability and technological availability for patients. - Cultural and religious concerns, including the potential misalignment of AI recommendations with fasting traditions. - Lack of clinical training for health care providers and concerns about patient misunderstanding or misinterpretation of AI guidance. - Fears of overreliance on technology leading to a loss of essential human interaction and clinical judgment. - Issues with data privacy and confidentiality breaches. - The potential for misuse of AI applications and errors in algorithmic recommendations.
III. Prompt: What are the suggestions for enhancing AI implementation for diabetes care in Ramadan? Responses: - Emphasis on comprehensive training for both health care providers and patients to enhance understanding and usage. - Improving accessibility to AI tools and making them user-friendly. - Development of culturally sensitive AI tools that respect religious practices during Ramadan. - Integration of AI into health care systems, ensuring alignment with clinician workflows. - Public awareness campaigns and workshops for both patients and healthcare providers to promote AI tools. - Simplification of AI systems to make them more accessible and reduce fear or resistance to technology.

Abbreviation: AI, artificial intelligence.

making, actual clinical utilization of AI tools during Ramadan remains relatively low. The gap between awareness and adoption may be driven by several modifiable barriers, most notably insufficient training, limited access to technology, and affordability issues.

The acknowledgment of AI's potential role in predicting hypoglycemia and supporting real-time glucose monitoring is consistent with published evidence demonstrating the utility of CGM systems and hybrid closed-loop (HCL) technologies in improving glycemic control during fasting periods. In particular, the MiniMed 780G and similar AID systems have been shown to support safer fasting in both adolescents and adults with T1D. Nonetheless, in this study, only a minority reported frequently recommending AI-based tools, such as CGM or predictive apps, during Ramadan, suggesting a disconnect between the theoretical value and clinical integration.¹⁴ Several key findings help explain this discrepancy. First, while 60% of participants had received formal training in Ramadan-specific diabetes care, only one-quarter reported training in the use of AI in clinical practice. This aligns with previous global surveys that underscore the limited inclusion of digital health and AI training in traditional medical curricula. Encouragingly, two-thirds of respondents in this survey expressed a willingness to engage in structured AI-focused education, with workshops, simulation-based training, and online modules identified as preferred modalities. These findings suggest a clear opportunity to bridge the adoption gap through targeted educational strategies.

The knowledge of specific AI tools varied widely. While over half of the respondents were familiar with CGM-based systems and AID systems, awareness of other applications, such as machine learning-based risk calculators (e.g., IDF-DAR), was limited.³ Interestingly, nearly half of the participants indicated unfamiliarity with any current AI applications in diabetes care during Ramadan. This echoes findings from the DAR Global Survey, which noted significant variability in provider awareness and comfort with emerging technologies in Ramadan-focused care.

Regarding the perceived benefit from AI in diabetes care during Ramadan, clinicians most frequently reported that AI tools supported hypoglycemia prevention during RF. CGM, HCL systems, and AID were described as enabling early prediction of glucose drops, reducing severe episodes, and informing safe decisions about when to break the fast. These perceptions align with established evidence that such technologies enhance safety in T1D, a critical consideration in the context of prolonged fasting. A second theme was improved glycemic control and treatment optimization, with respondents noting more accurate insulin titration and management of postprandial hyperglycemia. At the same time, AI-based monitoring and risk calculators were seen to enhance patient empowerment and confidence, as individuals gained greater awareness of their glucose patterns and felt more secure in undertaking RF. These benefits suggest that AI is viewed not only as a clinical tool but also as a means of strengthening patient engagement in self-management. Together, the responses suggest that clinicians perceive AI to

enhance Ramadan care through three interrelated domains: safety, treatment adjustment, and patient confidence.

The qualitative data (►Tables 1 and 2) in this study provided additional depth and insight. Many doctors noted the perceived benefits of AI in reducing glycemic variability, preventing hypoglycemia, and improving patient confidence in fasting. Others highlighted AI's potential to enhance personalized treatment adjustments and support patient autonomy, aligning with the principles of empowerment-based care models. However, some respondents expressed concerns regarding overreliance on technology, potential erosion of the physician–patient relationship, and the lack of culturally contextualized AI applications. These sentiments reinforce calls in the literature for codesigning AI systems with input from patients, clinicians, and religious scholars to ensure both clinical efficacy and cultural appropriateness. These data may serve as the basis for a needs assessment exercise.

Cultural and regulatory barriers were perceived by some respondents, albeit at lower frequencies than technical and cost-related constraints. This highlights an important consideration: while technological solutions may be effective, their acceptance and implementation must be tailored to diverse religious, cultural, and socioeconomic contexts. Technical issues are open to worldwide contributions, whereas cultural issues are unique to those observing the fast and must be led by experts with both Ramadan and AI expertise, especially in Muslim-majority countries. For example, alerts or recommendations from AI systems should be framed respectfully, perhaps using permissive rather than directive language (e.g., “You may wish to consider breaking the fast”).¹⁵

This study also aligns with prior research that highlights the crucial role of physician engagement in promoting the adoption of technology-enhanced diabetes care. Beyond individual training, broader health system initiatives—such as endorsement by professional societies, integration into guidelines (e.g., IDF-DAR, American Diabetes Association), and provision of subsidized AI tools—may be needed to enable equitable access and scalable implementation.¹⁶

To the best of our knowledge, this is the first focused survey on the role of AI in managing diabetes during RF. A key strength of this study is its diverse sample, which encompasses doctors from multiple regions, most of whom are senior clinicians. This enabled a rich understanding of current perspectives and barriers. However, the study has several limitations that should be mitigated in future studies. It relies on self-reported data and is therefore subject to selection and reporting bias. It does not include patient perspectives or objective outcomes related to the use of AI. As an exploratory survey, no comparative or inferential statistics were applied, limiting the ability to draw causal inferences. A Delphi method with a highly select group may advance the understanding of the subject from an ethnic and socioeconomic angle.

Furthermore, the survey used a convenience sampling strategy, drawing participants from professional networks

known to be interested in Ramadan and diabetes care. This may have introduced selection bias and led to the overrepresentation of doctors who were already favorably disposed toward AI. Also, the cross-sectional design captures perceptions at a single point in time and cannot establish causality or assess changes over time. While a literature review informed the questionnaire, it was not psychometrically validated, and the free-text responses were not analyzed using a formal qualitative coding framework, which limits the depth and reproducibility of thematic interpretation. Finally, the study excluded patient perspectives, which are essential for understanding the acceptability and real-world impact of AI in Ramadan-focused diabetes care. Also, regional differences in access to AI technologies and health care infrastructure were not systematically examined, which may limit the generalizability of the results.

Conclusion

This first exploratory survey reveals both optimism and ambivalence among doctors regarding the role of AI in managing diabetes during RF. Although a majority of respondents acknowledged AI's potential to enhance glycemic safety—especially through risk-prediction and real-time monitoring—actual clinical adoption remains limited. A practical roadmap could include (1) a basic AI literacy module, (2) Ramadan-specific case simulations, (3) access pathways/cost mitigation, (4) culturally informed messaging templates, and (5) evaluation metrics.

Future research should investigate patient experiences with AI during RF, assess clinical outcomes associated with AI-assisted care, and validate AI tools in real-world settings during Ramadan. Using Delphi methodology as the next step may help achieve more widely based consensus. Additionally, collaborative efforts are needed to develop training frameworks and culturally adapted digital interventions, possibly under the guidance of multidisciplinary bodies such as the DAR International Alliance, Islamic medical associations, and national endocrinology societies. Larger study populations may enable deeper exploration of how attitudes differ across geographies, especially between Muslim-majority versus minority countries, which would be valuable.

Author's Contribution

Single author.

Compliance with Ethical Principles

The study was deemed to carry no hazard to participants. No formal ethical approval was sought. However, consent for voluntary participation on an anonymous basis was secured electronically before participants could access the survey questions.

Data Availability Statement

All data supporting the study can be made available in a deidentified format upon a reasonable request to the corresponding author.

Funding and Sponsorship

None.

Conflict of Interest

None declared.

References

- 1 Beshyah SA. Fasting during Ramadan for people with diabetes: medicine and Fiqh united at last. *Ibnosina J Med Biomed Sci* 2009;1(02):58–60
- 2 Afandi B, Kaplan W, Al Kuwaiti F, Al Dahmani K, Nagelkerke N. Ramadan challenges: fasting against medical advice. *J Nutr Fast Health* 2017;5(03):133–137
- 3 Hassanein M, Afandi B, Yakoob Ahmedani M, et al. Diabetes and Ramadan: practical guidelines 2021. *Diabetes Res Clin Pract* 2022; 185:109185
- 4 Karalis VD. The integration of artificial intelligence into clinical practice. *Appl Biosci (Basel)* 2024;3(01):14–44
- 5 Sheng B, Pushpanathan K, Guan Z, et al. Artificial intelligence for diabetes care: current and future prospects. *Lancet Diabetes Endocrinol* 2024;12(08):569–595
- 6 Mackenzie SC, Sainsbury CAR, Wake DJ. Diabetes and artificial intelligence beyond the closed loop: a review of the landscape, promise and challenges. *Diabetologia* 2024;67(02):223–235
- 7 Elhadd T, Mall R, Bashir M, et al; for PROFAST-Ramadan Study Group. Artificial intelligence (AI) based machine learning models predict glucose variability and hypoglycaemia risk in patients with type 2 diabetes on a multiple drug regimen who fast during Ramadan (The PROFAST - IT Ramadan study). *Diabetes Res Clin Pract* 2020;169:108388
- 8 Al-Sofiani ME, Alharthi S, Albunyan S, Alzaman N, Klonoff DC, Alguwaihes A. A real-world prospective study of the effectiveness and safety of automated insulin delivery compared with other modalities of type 1 diabetes treatment during Ramadan intermittent fasting. *Diabetes Care* 2024;47(04):683–691
- 9 Elbarbary NS, Ismail EAR. Glycemic control during Ramadan fasting in adolescents and young adults with type 1 diabetes on MiniMed™ 780G advanced hybrid closed-loop system: a randomized controlled trial. *Diabetes Res Clin Pract* 2022; 191:110045
- 10 Al-Sofiani ME, Petrovski G, Al Shaikh A, et al. The MiniMed 780G automated insulin delivery system adapts to substantial changes in daily routine: lessons from real world users during Ramadan. *Diabetes Obes Metab* 2024;26(03): 937–949
- 11 Wannes S, Gamal GM, Fredj MB, et al. Glucose control during Ramadan in a pediatric cohort with type 1 diabetes on MiniMed standard and advanced hybrid closed-loop systems: a pilot study. *Diabetes Res Clin Pract* 2023;203:110867
- 12 Zainudin SB, Hussain AB. The current state of knowledge, perception and practice in diabetes management during fasting in Ramadan by healthcare professionals. *Diabetes Metab Syndr* 2018;12(03):337–342
- 13 Liao J, Wang T, Li Z, Xie H, Wang S. Experiences and views of people with diabetes during Ramadan fasting: a qualitative meta-synthesis. *PLoS One* 2020;15(11):e0242111
- 14 Beshyah SA. Artificial intelligence for diabetes care during Ramadan fasting: a narrative review. *J Diab Endocrine Pract* 2025. Doi: 10.1055/s-0045-1811513
- 15 Dwivedi R, Cipolle C, Hoefer C. Development and assessment of an interprofessional curriculum for managing diabetes during Ramadan. *Am J Pharm Educ* 2018;82(07):6550
- 16 Lum ZK, See Toh WY, Lim SM, et al. Development of a collaborative algorithm for the management of type 2 diabetes during Ramadan: an anchor on empowerment. *Diabetes Technol Ther* 2018;20 (10):698–703