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Primary Care Physicians' Knowledge, Perceptions, and Comfort Level in Managing Patients Fasting in Ramadan

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Abstract

Background: Once a year, Muslims fast from dawn to sunset during the month of Ramadan. While fasting has many positive health implications, it may pose risks to individuals with underlying health issues. Despite the exemption from fasting for those who are ill, many Muslims with chronic conditions choose to fast. It is unclear how many Muslim patients receive counseling on fasting. As such, the purpose of this pilot project was to assess the knowledge, perception, and comfort level of primary care physicians (PCPs) at Dalhousie University's Department of Family Medicine in managing patients choosing to fast during Ramadan. **Methods:** A 16-item anonymous, self-administered, structured online survey was distributed to PCPs with an academic affiliation with the Department of Family Medicine at Dalhousie University. Participants rated their level of comfort, objective knowledge, and perceptions of managing patients fasting in Ramadan. **Results:** Many PCPs perceived the importance of understanding Ramadan fasting and its relevance to their patients' health, however, they did not have adequate knowledge about the matter. The majority of PCPs felt they received inadequate training in this area and did not feel comfortable counseling and managing the health of these patients. **Conclusions:** The findings of this study have outlined a knowledge gap that exists within our PCP community and will help inform and prioritize educational needs and direct efforts to ensure safe patient management during Ramadan.

Keywords

community health, disease management, health promotion, patient-centeredness, primary care, program evaluation, underserved communities

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Introduction

There are an estimated 1.8 billion Muslims worldwide and 3.2% of the Canadian population is Muslim.[1,2] Fasting during Ramadan is 1 of the 5 fundamental pillars of Islam. Based on the Islamic lunar calendar, the month of Ramadan falls during different times of the year. From dawn to sunset, Muslims abstain from the intake of food, drinks, substances, or medications through oral/parenteral routes. Muslims generally eat 2 main meals per day during Ramadan: one at dawn before the start of fast, and the other when breaking their fast at sunset. While this practice involves changes in dietary habits and sleep patterns, it is meant to enrich spirituality and self-discipline.

A guiding principle in Islamic fasting is to do no self-harm. Thus, children, pregnant or breastfeeding women, and individuals with an illness that may worsen are exempt from fasting. Nevertheless, many of these Muslims still choose to fast, putting them at unintentional risks of health deterioration.[3-5] The Epidemiology of Diabetes and Ramadan (EPIDIAR) study included over 12 000 Muslims with diabetes in 13 countries and found 79% of Muslims fasted more than 2 weeks during the month of Ramadan. Significant risks of adverse outcomes, including hypoglycemia, was more prevalent in Ramadan compared with other months.[6] A survey of fasting during pregnancy found 87% of respondents fasted at least 1 day in Ramadan, while 74% completed at least 20 days.[7] A meta-analysis by Glazier

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Table 1. Percentage and Absolute Number of Primary Care Physicians Who Responded True or False to Questions Testing Knowledge Regarding Ramadan Fasting.

	True, % (n)	False, % (n)	No response (n)
Ramadan fasting involves abstaining from all food and drinks from dawn to sunset.	70.31 (45)	29.69 (19)	(0)
Ramadan fasting involves abstaining from water from dawn to sunset.	50.79 (32)	49.21 (31)	(1)
Ramadan fasting involves abstaining from taking medications from dawn to sunset.	39.06 (25)	60.94 (39)	(0)
Ramadan fasting always takes place during the same time of the year.	15.62 (10)	84.38 (54)	(0)

et al[8] showed inconclusive evidence on perinatal outcomes and a need for further research despite smaller studies hinting toward adverse outcomes of stillbirths, neonatal deaths, and decreased placental weight. Therefore, lack of awareness of Ramadan fasting among clinicians can predispose patients to potentially serious health consequences.

It is unclear how many Muslim patients with medical conditions receive counseling on fasting. A questionnaire offered to providers at primary care and geriatric clinics in New York found most respondents do not ask their Muslim patients with diabetes if they were fasting. Additionally, most physicians in the study felt uncomfortable managing these patients while their knowledge of Ramadan fasting varied.[9] According to Diabetes Canada, most health care providers, especially those practicing in North America, have limited knowledge about the specifics of fasting during Ramadan.[10] Another study found a significant lack of knowledge among physicians regarding proper medication management during this month.[11]

Given the potential serious consequences of unsupervised Ramadan fasting in patients with chronic illnesses, it is fundamental that primary care physicians (PCPs) know how to medically manage fasting patients. Therefore, the purpose of this pilot project was to assess the knowledge, perception, and comfort level of PCPs at Dalhousie University's Department of Family Medicine in managing patients choosing to fast during Ramadan. PCPs were also asked about their level of medical training and comfort with Ramadan fasting.

Methods

A descriptive, cross-sectional design was employed using an online survey. The questionnaire was distributed to family physicians with an academic appointment at Dalhousie University. Survey distribution was through the Department of Family Medicine administration, facilitating results from physicians directly involved in the training of medical learners. There was no direct or indirect compensation for completing the survey.

Data were collected using an anonymous, self-administered, structured questionnaire. The questionnaire content was initially reviewed by 5 family physicians to assess question applicability, and to ensure survey completion would not exceed 5 minutes. The 16-item web-based survey was divided into 6 sections: Knowledge (4 questions), Comfort Level (3 questions), Practice Behaviors (1 question), Training/Resources (3 questions), Perception (3 questions), and Open Comments (2 questions). The structure was based on published surveys that examined knowledge gaps in the management of marginalized populations in family medicine.[12,13] The answers to comfort and perception were categorized into Likert-type scales. The answers to knowledge questions were true/false. Answers to questions regarding medical training and self-acknowledged areas of weakness had a variety of options.

Participants were required to consent prior to accessing the survey. The project received ethical approval from the Dalhousie University Research Ethics Board (2017-4384). The Dillman Method was used where 3 separate emails were sent out 2 weeks apart (1 initial email and 2 reminder emails), followed by a final email reminder a few months later.[14] Information regarding the survey was also included in the Nova Scotia College of Family Physicians monthly newsletter.

Data were collected and recorded on the Opinio software. Descriptive statistics were used to quantify the survey responses.

Results

The survey was sent to the Dalhousie Family Medicine mailing list, which included 683 emails, an unknown number of which were inactive. The survey was opened by 85 individuals, and 64 individuals responded to survey questions (response rate 9.4%).

Knowledge

Table 1 demonstrates the percent of correct/incorrect responses to Ramadan fasting questions. Seventy percent (n = 45) of respondents correctly identified that Ramadan involves abstinence from all food and drinks from dawn to sunset. However, the question of abstinence from water while fasting revealed equivocal responses, with only 51% (n = 32) of physicians responding correctly. In addition, only 39% (n = 25) of physicians were aware that Muslims cannot consume medications while fasting and 84% (n = 54) correctly identified that Ramadan does not occur at the same time annually.

Table 2. Primary Care Physicians' Comfort, Perception, Understanding, and Reported Level of Training Regarding Ramadan Fasting.

	Strongly disagree, % (n)	Slightly disagree, % (n)	Neutral, % (n)	Slightly agree, % (n)	Strongly agree, % (n)	No response (n)
I am comfortable providing care to patients with underlying conditions who fast during Ramadan.	4.76 (3)	22.22 (14)	12.7 (8)	44.44 (28)	15.87 (10)	(1)
I am comfortable obtaining an appropriate medical history from a patient fasting during Ramadan (eg, activity levels, hydration, food consumption).	3.12 (2)	14.06 (9)	9.38 (6)	39.06 (25)	34.38 (22)	(0)
I am comfortable adjusting the medications of my patients who are fasting during Ramadan (time of day, dosing etc).	9.38 (6)	18.75 (12)	14.06 (9)	37.5 (24)	20.31 (13)	(0)
Understanding a patient's religious beliefs are essential to meet their health care needs.	1.59 (1)	1.59 (1)	4.76 (3)	30.16 (19)	61.9 (39)	(1)
Ramadan fasting may have implications on the health care management of my patients.	1.56 (1)	0 (0)	3.12 (2)	29.69 (19)	65.62 (42)	(0)
I have access to the resources needed to help me effectively manage patients fasting during Ramadan.	25 (16)	21.88 (14)	23.44 (15)	21.88 (14)	7.81 (5)	(0)
I have received adequate training on how to manage patients choosing to fast during Ramadan.	57.81 (37)	17.10 (11)	17.19 (11)	3.12 (2)	4.69 (3)	(0)

Comfort

Many respondents reported "slightly agree" to feeling comfortable providing care to patients with underlying conditions fasting during Ramadan, obtaining an appropriate medical history, and adjusting their medications (44%; n = 28, 39%; n = 25, and 38%; n = 24, respectively). Of note, the question on comfort level that received the greatest "strongly agree" response was for obtaining a medical history from these patients (34% of respondents; n = 22). The question with the most frequent "strongly disagree" response was for medication adjustment (9% of respondents; n = 6, Table 2).

Perception

Sixty-two percent (n = 39) of physicians strongly agreed that understanding a patient's religious beliefs is essential to meeting their health care needs. Sixty-six percent (n = 42) strongly agreed that Ramadan fasting may have implications on the health care management of their patients (Table 2). Fifty-eight percent (n = 37) reported providing care to patients with underlying medical conditions fasting Ramadan.

Training

Forty-seven percent (n = 40) of respondents did not feel they have access to resources necessary to help them effectively manage patients who fast during Ramadan. Twenty-seven percent (n = 18) of respondents reported to have received some form of training on Ramadan fasting. Seventy-five percent (n = 48) reported not receiving adequate training on this topic (Table 2). PCP training on Ramadan was limited in the survey results, with 80.3% receiving no training, while a small minority mentioned medical school training (9.8%, n = 6) or continuing medical education (9.8%, n = 6).

Comments

The survey provided the opportunity for physicians to specify areas related to Ramadan fasting and patient care that they would like to learn more about. General themes from these comments included obstetrics and gynecology (in particular, the management of fasting pregnant women), diabetes, proper hydration, parenteral feeding, and medication adjustments. Physicians also commented on their intent to learn more about Ramadan fasting in general and on the management of children choosing to fast.

Many physicians highlighted the importance of this questionnaire and eagerness to see more information dissemination in the form of continued medical education. Furthermore, a few respondents commented that it is integral to make informed decisions with patients on the safety of Ramadan fasting given their medical status.

Discussion

The health impacts of Ramadan, as a form of intermittent fasting, is an area of continuous research. Many Muslims seize the opportunity of Ramadan to implement healthy lifestyle changes through appetite control, balanced meals,

and as a vehicle for smoking cessation.[5,15] Nevertheless, Ramadan fasting in individuals with chronic diseases may pose a risk of unintentional harm.

PCPs can play a pivotal role in managing the health of patients fasting during Ramadan. However, it is unclear whether they have adequate knowledge or comfort in doing so. The findings of this study showed that many PCPs perceive the importance of understanding Ramadan fasting and its relevance to their patients' health. Many did not know that water or medications cannot be consumed while fasting. Our study showed that 80% of respondents did not receive any training on Ramadan fasting, highlighting the significant lack of exposure to this issue during medical training. Others felt inadequately trained and did not feel comfortable counseling and managing these patients.

The low level of knowledge and comfort with fasting may be a reflection of an educational system that does not adequately address culturally sensitive care. This study, though small in nature, is a reflection of an academic family medicine department that is heavily involved in training medical students and residents. Many respondents highlighted the need for further training and educational resources on Ramadan fasting.

The importance of PCPs' awareness of Ramadan fasting is paramount, as they can facilitate the medical management of fasting patients through various ways. PCPs can risk stratify patients and ascertain whether their health may be negatively affected by fasting. They can advise patients on balanced meals, physical activity, and adequate hydration during the month. Some patients may also require medication adjustments during this month.[4,5] Additionally, a significant number of clinicians and trainees observe Ramadan and it is the responsibility of the entire team to ensure a healthy working environment for all those fasting.[5] Before these roles can be assumed by PCPs, there must be a basic understanding of the core principles of Ramadan fasting.

Our findings outline a knowledge gap that exists within our PCP community and will help prioritize efforts to ensure safe patient management during Ramadan. Future directions include establishing a continuing medical education course, research examining whether Ramadan is included in Canadian medical schools' curricula, as well as examining the consequences of fasting on chronic diseases. Ultimately, we hope this study can lead to the development of best practice guidelines on the management of specific diseases in Ramadan.

Limitations include a small sample size and low response rate, creating potential for selection bias. The questionnaire was administered to family physicians with an academic appointment at Dalhousie University, with the hopes of having representation from physicians actively involved in medical education. There was no incentive to participate in this study and as a result, physicians who chose to respond to this survey could have had an interest in Ramadan fasting or self-identified knowledge gaps biasing the survey results. Furthermore, the survey results may not be generalizable to family medicine departments across the country, as other communities may have larger Muslim patient populations, however, this points to the necessity of exploring knowledge and awareness in populations that have less diversity.

Conclusions

Our survey findings suggest that many PCPs lack adequate knowledge on the principles of Ramadan fasting and that the majority of PCPs feel only slightly comfortable with managing the health of their fasting patients. This suggests that there is a need for better physician training, future research, and more educational resources to address this knowledge gap. Through this, we hope that the overall health and safety of patients choosing to fast during Ramadan can be improved.

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Author Contributions

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