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KNOWLEDGE, ATTITUDE, AND PRACTISES OF GENERAL PRACTITIONERS AT TERTIARY CARE HOSPITALS IN PESHAWAR A CROSS SECTIONAL STUDY, "ISLAMIC PERSPECTIVE- DIABETES & RAMADAN".

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ABSTRACT

INTRODUCTION: Diabetes mellitus is a metabolic illness that progresses and is caused by low amounts of the hormone insulin.With a sizable population and a large geographic region, Pakistan struggles with a considerable diabetes incidence among its populace. For people with diabetes, advice from medical professionals is crucial for ensuring a healthy fast throughout Ramadan. **OBJECTIVE:** "To assess healthcare professionals' comprehension, outlook, and behaviors in handling diabetes during the sacred month of Ramadan, is the objective of this study."**METHODOLOGY:** In three Tertiary Care Hospitals in Peshawar, this descriptive study of 153 doctors was conducted over the course of six months. Doctors working in the medical ward who were fluent in English were included; those taking extended vacations and refusing to participate were not. After IRB permission, the serial sampling approach was used with their knowledge and consent. 20 items on knowledge, attitude, and practises in regard to diabetes treatment in Ramadan were included in a validated pre-designed questionnaire that was used for the interviews. This questionnaire was developed from a prior study. Using descriptive statistics for categorical variables, data was gathered and analysed using SPSS Version 21.**RESULTS:** The general practitioners answered with a response rate of 75.6%, with a mean age of 36.1 years and a standard deviation of 10.2367. 69.9% of the replies were from men, while just 29.4% were from women. All of the topics covered by the questions were sufficiently understood and practised by the doctors. Their attitude ratings, however, were below average, with scores of 13% for learning about Islamic medicine, 28% for counselling, and 26% for glycemic decline during Ramadan.**CONCLUSION:** The general practitioners' knowledge of diabetes, fasting, and treatment choices during Ramadan was determined to be competent, but the participating doctors' attitudes were found to be lacking due to gaps that had been observed.

KEYWORDS: Attitudes, Diabetes, Islam, Knowledge, Ramadan, Practice.

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INTRODUCTION

Diabetes Mellitus stands as both an epidemic and a progressive metabolic disorder arising from insufficient insulin hormone levels. This pressing public health concern necessitates particular attention due to the concerning global statistics, particularly in South Asian countries with low to middle incomes [1]. The projected prevalence of diabetes is anticipated to surge to approximately 592 million individuals, constituting around 10.32% of the population, by the culmination of 2035. In 2014, the World Health Organization WHO approximated that 108 million individuals were afflicted by diabetes. However, the International Diabetes Federation IDF reported a more recent figure of 415 million cases in 2015 [2]. Diabetes Mellitus brings about vascular complications, contributing to elevated medical expenditures and a compromised quality of life. This condition significantly impacts individuals within society. Initially perceived as an ailment affecting primarily affluent urban populations due to factors like mass migration, urbanization, dietary changes, and sedentary lifestyles, diabetes now affects a broad spectrum of people in Pakistani society [1,2,3].

Pakistan, with its substantial population and expansive geographic area, contends with a notable prevalence of diabetes among its citizens.

The sole available data concerning the National Diabetes Survey of Pakistan originates from 1999 and was published in 2007. This data indicated a diabetes prevalence of 11% for Type-2 Diabetes. In contrast, IDF's 5th Edition Atlas noted a prevalence of 6.8% in Pakistan. Nevertheless, local experts assert that these figures underestimate the true extent of the problem. Consequently, varying estimates of diabetes prevalence span from 7.2% to 19.21% across different regions of Pakistan [3,4]. In collaboration with the World Health Organization WHO, the Public Health Resource Centre PHRC conducted a survey based on questionnaires in the provinces of Punjab and Sindh. This survey yielded a diabetes prevalence ranging from 13.1% to 26.9%. In all four of Pakistan's provinces, there was a prevalence of diabetes of 26.3% and an incidence of 1%, according to the second National Diabetic Survey [5]. These current and projected statistics underscore the urgency of addressing diabetes through enhanced community healthcare, knowledge dissemination, and awareness initiatives. Data encompassing 110 countries disclosed that the number of people living with diabetes reached 366 million in 2011, with an estimated increase to 552 million by 2030, according to IDF's annual projections [6].

Across the world, Muslims hold a sacred obligation to observe fasting during the holy month of Ramadan. This practice entails refraining from consuming food, drinks, medications, and engaging in sexual activity from dawn until dusk throughout the lunar month [7, 8]. Fasting is a revered tradition meant not only for those of our time but for all preceding and future generations, aimed at nurturing a sense of piety [9]. The revelation of the Holy Quran occurred in Ramadan, serving as a universal guide. Allah mandates fasting for all except the ill and travelers, offering flexibility for the well-being and gratitude of believers [10]. Hadith literature also underscores the significance of fasting. The Prophet peace and blessings of Allah be upon him conveyed that fasting during Ramadan leads to the expiation of sins, a reward bestowed by Allah Subhanahu Reported by Al-Bukhari, 38; Muslim, 760. In another narration, Hazrat Muhammad PBUH delivered glad tidings to devoted believers who faithfully bow to Allah and uphold fasting, promising them a place in Paradise Reported by Al-Bukhari, 7423. Allah values the breath of a fasting individual more than the scent of musk Reported by Al-Bukhari, 7492; Muslim, 1151. Fasting is both a privilege and an act of faith. Consequently, individuals with diabetes often receive exemptions from fasting due to the potential risks of hypoglycemia, hyperglycemia, diabetic ketoacidosis, dehydration, and thrombosis [11].

For people with diabetes, advice from medical professionals is crucial for ensuring a healthy fast throughout Ramadan. Structured health education sessions, food planning, physical exercise, blood glucose monitoring, medication modifications, and knowledge of potential side effects including dehydration, hypoglycemia, and hyperglycemia are all part of the preparation process for Ramadan. Many Muslims still attempt to fast, even though those who are unwell are excluded. Since they must maintain their prescriptions and health while fasting, diabetic people present difficulties for medical professionals. Despite doctors' recommendations against fasting, there is sometimes a conflict between what doctors recommend and what patients want [12.]

Effective management of diabetes during Ramadan requires special dietary considerations, medication adjustments, and frequent blood sugar monitoring. Serious diabetic patients should be educated about the potential consequences of fasting. Before Ramadan, adequate teaching ought to encompass dosage modifications, scheduling, dietary changes, exercise regimens, and self-monitoring of blood glucose levels [11,12].

Pakistani physicians play a crucial role in diabetes management, but some lack proper knowledge about managing the condition during Ramadan in alignment with religious guidelines. A study conducted in Karachi revealed that around one-third of doctors lacked fundamental knowledge about diabetes management [13]. Another study explored physicians' attitudes towards diabetes management during fasting and their adherence to available guidelines. While many physicians recognized the importance of managing diabetes during Ramadan, a significant portion did not consider co-morbidities with diabetes as significant. Access to educational materials varied among healthcare staff [14]. A survey conducted among physicians in the UAE highlighted the importance of Ramadan-focused educational awareness, strict glycemic control, dose adjustments, and risk assessment. The majority of surveyed physicians valued these aspects, indicating the need for comprehensive management strategies [15].

Through a comprehensive review of existing literature, numerous studies concerning patient awareness of fasting during Ramadan were found. However, there is a noticeable scarcity of research regarding the viewpoint of Islamic practices by general practitioners in patient management during fasting. Regrettably, not all healthcare professionals possess adequate knowledge in this area. This deficiency in knowledge served as the impetus for the current study, which aims to assess the fundamental awareness level, prevalent practices, and attitudes of medical practitioners in Peshawar's Tertiary Care Hospitals. The focus will be on the management of diabetes during Ramadan, aligning with Islamic principles delineated in the Quran and Sunnah.

METHODOLOGY

This descriptive study was conducted between March 2019 and August 2019 after receiving approval from the ethics committee Prime/IRB2019-145. The study comprised 153 general practitioners from Peshawar's Lady Reading Hospital LRH, Khyber Teaching Hospital KTH, and Hayatabad Medical Complex

HMC. These medical facilities serve a variety of diabetic out-patients and are situated in important sections of the city, such as the university road and Hayatabad town.

Medical ward doctors proficient in English were considered eligible for inclusion, while those on extended vacations without consent were excluded. The serial sampling technique was utilized to select doctors who provided informed consent. Interviews were carried out using a pre-designed validated questionnaire to collect firsthand information.

To gather the data, a verified structured survey 16 was employed. The preceding study from which this survey was generated was modified for the present situation. The 20-item survey measured medical professionals' knowledge, attitudes, and practises regarding fasting in illness care from an Islamic perspective. To account for the cultural and religious background, certain questions were changed. A scoring manual was also developed to help with the computation of results.

The chosen questionnaire underwent pilot testing with 50 practitioners, producing consistent results. Data was inputted into MS Excel and later imported into SPSS Version-21 for analysis. The knowledge, attitude, and practises of doctors in treating diabetes patients were evaluated in this study as dependent variables. Age, gender, education, the amount of experience the doctors had in the profession, and socioeconomic background were all independent factors. For categorical data, descriptive statistics using frequency and percentages were used. P-value estimates were used to assess relationships between dependent variables and knowledge, attitude, and practises. Additionally, graphs were created to illustrate characteristics of practises and mindset.

RESULTS

This cross-sectional study design distributed 200 questionnaires, however only 153 of them were returned, producing a response rate of 76.5%. The average age of the participants was 36.1 years, with a standard deviation of 10.2367. The bulk of the participating doctors in the study n = 107; 69.9% were men, with 45 women accounting for 29.4% of the total. According to their titles, the study population was further divided into three groups: 62.7% FCPS trainees n = 96, 11.1% medical officers n = 17, and 25.5% house officers n = 39. Four categories were used to group the hospital experience of doctors. One year or less of experience was represented by n = 37 with 24.18%, one to four years was represented by n = 97 with 63.39%, five to ten years was represented by 16 with 10.45%, and more than ten years was represented by n = 3 with 1.96%, indicating varied and rich experiences. Knowledge, attitude, and practises did not significantly correlate with the study's independent variables.

Table- 1:Diabetes Knowledge Assessment of Physicians in Tertiary Care Hospitals Based on Islam

Questions	Do Not Know	No	Yes
Can diabetic patients skipped the Sehri Sahoor in holy month Ramadan?	1.3%	85%	13.7%
Is it permissible for a diabetic patient on insulin injection to fast in order to regulate his or her blood sugar?	1.9%	37.3%	60.8%
Should diabetic women fast even if they breastfeed their children?	3.9%	47.7%	48.4%
Should patients eat if they have visible and felt HYPOGLYCEMIA symptoms?	2.6%	19.6%	71.8 %
Is tarawih prayer a substitute to physical activity during Ramadan?	2%	38.5%	59.4%
Should Type I diabetic adolescents fast?	4.6%	69.9%	29.5%
Is it possible to take insulin injections when fasting?	2.6%	68%	29.4%
Should you avoid strenuous exercise and physical activities when fasting?	1.3%	20.2%	78.4%
If your BSL is around 70mg/dl in the early hours of fasting, you should visit a doctor right away and break the fast.	1.3%	18.3%	80.4%
Is it permissible for diabetic patients to fast in Islam?	1.3%	28.8 %	69.9%
Is it necessary for a diabetic pregnant lady to fast?	1.9%	71.9%	26.1%
Can diabetics have the same amount of sweets and fried foods as nondiabetic family members during aftar during Ramadan?	0.7%	74.5%	24.8%
Do you believe that consuming more meals during Sehri would improve blood sugar management throughout the day?	1.3%	63.3%	35.3%

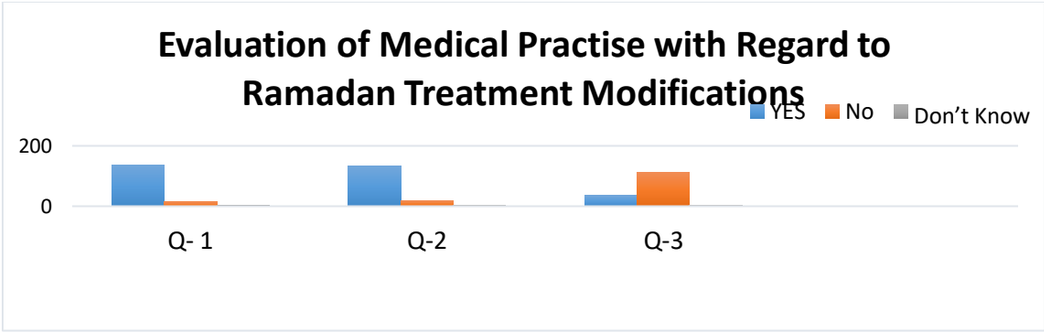

Figure 1: An evaluation of the doctor's practise with reference to Ramadan treatment changes

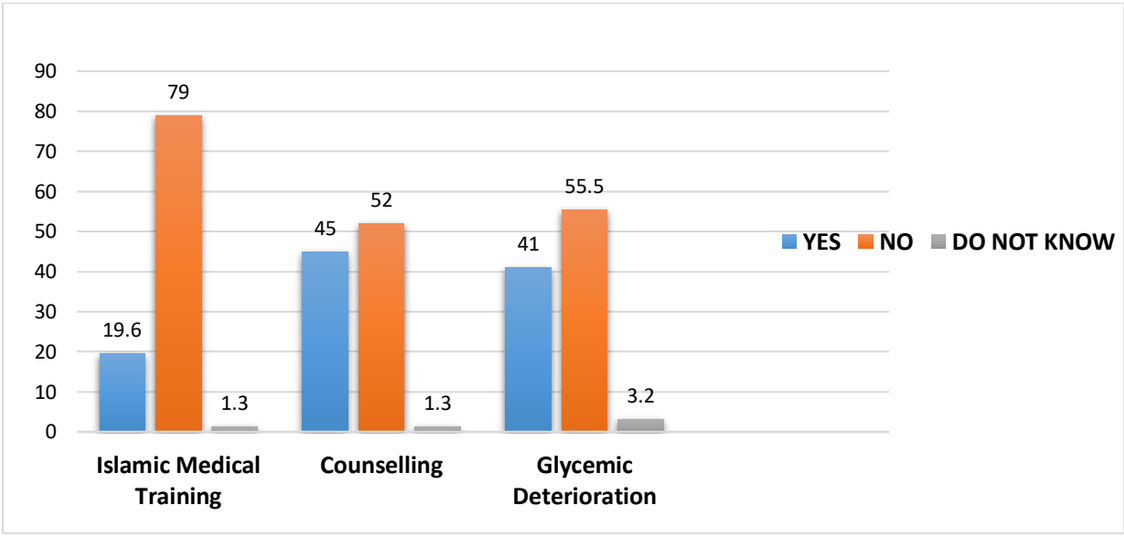

Figure 2: Medical Professionals' Views on Ramadan & Diabetes

DISCUSSION

The present study assessed how physicians manage diabetes during Ramadan based on Quranic and Sunnah guidelines. It found good knowledge, particularly in adjusting doses during the holy month. It contrasted from an Indonesian research where doctors and paramedical workers showed lesser knowledge and attitudes during Ramadan fasting for diabetics since it was conducted in a location with high diabetes incidence and a religious community. The results highlight the importance of tailored programs for diabetes management among doctors. Unlike the Indonesian study, our findings showed strong knowledge, positive attitudes, and no correlation between knowledge and independent variables [11].

During a study in Karachi, doctors' practises, knowledge, and attitudes towards the management of diabetes and suitable food preparation during Ramadan were investigated. In the survey, it was discovered that 70% of the answers were true, while the remaining 30% were false. Notably, a portion of the physicians, about one-fourth, held misconceptions such as believing that diabetics should never fast. Furthermore, approximately one-third of the doctors provided incorrect answers to diet-related queries. Additionally, 40% of the physicians gave inaccurate responses regarding dose adjustments during fasting. However, a significant 80% of them agreed with making adjustments to medication timing to ensure safe fasting. Despite this, a lack of knowledge among the treating doctors impacted the disease management outcomes. The study's findings were positive in terms of physicians' knowledge and diabetes management. Specifically, 89.5% demonstrated knowledge of the optimal timing, 86.2% had an understanding of dose adjustments, and 73.8% suggested seeking advice from religious scholars for diabetic patients. It's important to note that these results cannot be directly compared to the outcomes of the Karachi study [12, 13]. Another investigation examined physician attitudes toward diabetes management during Ramadan; 95% of the physicians deemed it a significant concern. The majority of medical practitioners highlighted the importance of glucose self-assessment. These findings differ from the current study [14].

A web-based survey assessed the knowledge, attitudes, and practical diabetes management strategies during Ramadan among physicians based in the UAE. The response rate for males was 55.9%, while females constituted 44.1% of respondents. A consensus among 90% of physicians regarding the value of Ramadan-specific education was noted. Additionally, 75.1% emphasized glycemic control, and a two-thirds majority exhibited a high awareness of diabetes management medications. Physician disposition towards patient treatment was reported at 71%. Among respondents, 40.9% adhered to ADA recommendations, whereas 34% followed a risk stratification approach. While our study differs in physician knowledge levels, it should be noted that our research did not encompass guidelines, recommendations, or risk stratification queries as in the mentioned study [15].

An online pilot research found that 11.1% of healthcare professionals felt uneasy when

treating patients and went against guidelines. In addition, 51.1% said they felt a little uncomfortable, 13.3% said they were unsure, 22.2% said they felt a little comfortable, and only 2.2% said they felt extremely comfortable [16]. The study identified that 52.3% of doctors encountered challenges in Diabetes management. Furthermore, only 34% inquired about fasting, while a mere 11.1% provided recommendations and dose adjustments. The results highlight people's varying knowledge with Ramadan's fasting customs. Despite the congruence of the results with the current investigation, the latter lacks information on the comfort levels related to patient care [17].A prospective controlled study carried out among physicians in Taif, Saudi Arabia, demonstrated a high level of awareness 80% concerning the early detection, diagnosis, and management of diabetic complications. This awareness level was compared to the adequate level established by the current study. The participating doctors, 98% of them, possessed an average experience of 5 years, aligning with the study's focus on individuals with 1 to 4 years of experience. A significant difference in awareness levels was observed between physicians from Tertiary and Primary Health Care Centers, with the former group showing higher awareness $P < 0.05$. The findings show that people's understanding of Ramadan's fasting traditions varies widely. The results of the present research are consistent with those of the previous one, however the latter lacks data on patient comfort levels [18].

In order to evaluate Knowledge, Attitude, and Practise KAP levels, variables influencing them, and the use of a validated assessment tool, an Iranian cross-sectional research with a random sample of internists was done. The findings showed that participants' average ages were 41.98 + 9.26 years. Notably, there was a substantial negative association between the time of graduation and both knowledge and practise P 0.05. When compared to non-working people, doctors scored considerably higher on both the attitude and practise scales P 0.05. Additionally, knowledge and practise showed an inverse association with age and time since graduation, emphasising the need of focusing training endeavours on senior internists. In terms of ideal physician knowledge, this study is comparable to earlier studies, but it has a special focus on Islamic knowledge and found no evidence of a significant relationship between independent and dependent variables [19]. Proactive talks with patients are essential to acquire the highest degree of medical expertise, as shown by a Bosnian research. The results of the study show that doctors frequently veer from ADA recommendations. Furthermore, it appears that knowledge depending on variables like gender, experience, and workplace has no discernible variation or link. These results are consistent with the recent study [20].

Egyptian healthcare professionals provided valuable insights regarding a novel communication tool called R.A.M.C.O.M, designed for the management of diabetic patients during the Ramadan period. The study involved implementing a culturally tailored care program for fasting individuals with diabetes prior to Ramadan, resulting in notable enhancements in glycemic control. This innovative solution holds potential for widespread adoption among healthcare providers and stakeholders, enabling effective and secure glycemic management during Ramadan by means of educational initiatives, timely notifications, visually engaging posters, effective communication, and active staff engagement [21]. An investigation carried out among Health Care Professionals encompassed endocrinologists, dietitians, and specialized nurses involved in the care of their patients. The doctors exhibited sound knowledge and were adept at handling diabetes management during Ramadan, with the added support of a multidisciplinary team. The findings of this study align with the current research; nevertheless, the absence of a multidisciplinary team was noted as a distinguishing factor [22].

The study's limitations encompassed several aspects: a small and diverse sample size, the examination confined to just three educational institutes which might not accurately reflect the entire district's population. Additionally, given that the research took place after Ramadan, potential recall bias could be a factor.

CONCLUSION

During the month of Ramadan, the physicians demonstrated satisfactory knowledge regarding diabetes, fasting, and treatment choices. However, the attitudes of the participating doctors revealed certain shortcomings, such as a lack of familiarity with fundamental Islamic principles, insufficient counseling, and observed deterioration in glycemic control among the patients. Based on the findings of the study, it is highly advisable to introduce ongoing medical education initiatives not only in Tertiary Care Hospitals but also across all other healthcare centers. This measure aims to provide physicians with the latest knowledge grounded in both medical advancements and ethical considerations. Additionally, it is important to engage the family members of diabetic patients, fostering a deeper comprehension of the condition and encouraging collaborative efforts that can contribute to an enhanced quality of life.

ETHICS APPROVAL: The ERC gave ethical review approval.

CONSENT TO PARTICIPATE: written and verbal consent was taken from subjects and next of kin.

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CONFLICT OF INTEREST: No competing interest declared.

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