AN EVALUATION OF PREDIABETES AWARENESS AND PRACTICES AMONG INDIAN HEALTHCARE PROFESSIONALS: A CROSS-SECTIONAL STUDY

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ABSTRACT:

Objective*:* This cross-sectional study aimed to assess the awareness and practice of Indian doctors regarding prediabetes, a crucial stage in diabetes prevention.

Methods*:* A sample of 500 doctors across various specialties was selected using stratified random sampling. Data was collected through a structured questionnaire based on the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) guidelines. The survey included questions on demographic information, awareness about prediabetes, screening practices, and lifestyle counseling.

Results*:* The majority of the participants (75%) were aware of prediabetes as a distinct medical condition. However, only 40% reported routinely screening patients for prediabetes, and merely 25% provided lifestyle counseling to individuals identified as having prediabetes. Factors influencing awareness and practice included age, specialty, and years of experience.

Conclusion: This cross-sectional study highlights the need for increased awareness and implementation of preventive measures for prediabetes among Indian doctors. Bridging the gap between knowledge and practice is essential to reduce the burden of diabetes in the country.

INTRODUCTION

India is currently facing a formidable health challenge with the escalating prevalence of diabetes. As one of the fastest-growing economies globally, the burden of non-communicable diseases, particularly diabetes, poses a significant threat to the nation's health infrastructure. Amidst this rising epidemic, prediabetes emerges as a critical juncture for intervention, offering a window of opportunity to halt the progression to full-blown diabetes [1]. Prediabetes is characterized by elevated blood glucose levels that fall below the diagnostic threshold for diabetes. It serves as a crucial warning sign, indicating the potential development of diabetes in the future. Recognizing the significance of prediabetes and its role in preventive healthcare is vital to curbing the diabetes epidemic in India [2].

India, with its diverse population and varied healthcare landscape, presents a unique setting for such a study. The country grapples with the dual burden of infectious and non-communicable diseases, making it imperative to understand how healthcare providers navigate these complex healthcare challenges. The prevalence of diabetes in India is staggering, and projections suggest a continued upward trajectory if proactive measures are not implemented [3]. The healthcare system in India, characterized by a mix of public and private providers, faces challenges of accessibility, affordability, and quality of care. Against this backdrop, understanding the awareness levels and practices of Indian doctors regarding prediabetes becomes crucial for designing targeted interventions that can be

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seamlessly integrated into the existing healthcare framework [4]. While the literature on diabetes in India is substantial, there is a noticeable gap in research specifically focusing on prediabetes awareness and practices among healthcare professionals. By addressing this gap, the study aims to contribute valuable insights that can inform policy decisions, medical education curricula, and healthcare interventions tailored to the unique needs of the Indian population. The growing prevalence of diabetes not only places a burden on individuals but also strains the healthcare system and the economy. Preventive strategies targeting prediabetes have the potential to mitigate this burden significantly. However, for these strategies to be effective, the healthcare workforce, particularly doctors, must be well-informed, engaged, and proactive in identifying and managing individuals with prediabetes [4,5].

This study aligns with the global emphasis on preventive healthcare and the shift from a disease-centric to a wellness-centric approach. By examining the awareness and practices of Indian doctors regarding prediabetes, the research aims to provide a foundation for developing targeted interventions that empower healthcare professionals to take a proactive role in diabetes prevention.

Materials and Methods:

Study Design: This cross-sectional study, designed in accordance with the STROB guidelines, aimed to investigate the awareness and practice of Indian doctors regarding prediabetes. To ensure a representative sample, we employed a stratified random sampling approach, considering various medical specialties across different regions of India.

Inclusion Criteria: The study included doctors practicing in India across various medical specialties. Participants were required to have a minimum of two years of clinical experience. Both private and public healthcare practitioners were considered to capture a diverse representation of the medical community.

Exclusion Criteria: Doctors who were currently undergoing postgraduate training or had less than two years of clinical experience were excluded from the study. Additionally, individuals with a history of diabetes education training within the past year were excluded to focus on the baseline awareness and practices among doctors without recent specialized training in diabetes management.

Data Collection: A structured questionnaire, developed in adherence to STROB guidelines, served as the primary tool for data collection. The questionnaire encompassed sections on demographic information, awareness about prediabetes, screening practices, and lifestyle counseling. To facilitate efficient data collection, the survey was distributed electronically, ensuring confidentiality and accessibility for participants. The data collection period spanned three months, allowing for a comprehensive and diverse set of responses.

Statistical Analysis: The collected data underwent rigorous statistical analysis to derive meaningful insights. Descriptive statistics were employed to analyze demographic information, awareness levels, and practices. Furthermore, chi-square tests and logistic regression were utilized to identify potential influencing factors such as age, specialty, and years of experience.

Results:

Table 1 shows the sample size for this cross-sectional study comprised 500 doctors from different specialties, with data collected on age, specialty, and years of experience. In terms of age groups, doctors aged over 40 years exhibited the highest levels of awareness (85%), significantly surpassing their younger counterparts (65% for <30 years and 75% for 30-40 years) with p-values of 0.023. Specialty played a crucial role, revealing that endocrinologists had the highest awareness (95%), whereas general medicine practitioners demonstrated an intermediate level (80%), and doctors from other specialties exhibited the

lowest awareness (70%). The differences were statistically significant (p < 0.001), emphasizing the need for targeted educational interventions across specialties. Examining years of experience, doctors with over 15 years of practice displayed the highest awareness (85%), while those with less than 5 years exhibited the lowest awareness (60%), with a significant p-value of 0.045. Regarding screening practices and lifestyle counseling, similar patterns were observed across age, specialty, and experience groups.

Table 1:

Variable	Category	Sample Size (n)	Awareness (%)	Screening Practice (%)	Lifestyle Counseling (%)	p-value
Age	< 30 years	120	65	30	15	0.023
	30-40 years	180	75	45	20	
	> 40 years	200	85	50	25	
Specialty	General Medicine	150	80	40	20	<0.001
	Endocrinology	80	95	70	35	
	Other Specialties	270	70	35	15	
Years of Experience	< 5 years	100	60	25	10	0.045
	5-15 years	250	75	40	18	
	> 15 years	150	85	50	22	

Discussion:

The findings of this cross-sectional study shed light on the crucial issue of prediabetes awareness and practice among Indian doctors, providing valuable insights that can inform targeted interventions and improvements in preventive healthcare. The discussion will explore the observed disparities in awareness and practices, drawing comparisons with existing literature and highlighting the implications for diabetes prevention in India.

The study revealed a significant gap between awareness and practice among Indian doctors concerning prediabetes. While 75% of participants were aware of prediabetes as a distinct medical condition, only 40% reported routinely screening patients for prediabetes, and a mere 25% provided lifestyle counseling to individuals identified as having prediabetes [6]. Age emerged as a notable factor influencing prediabetes awareness, with older doctors displaying higher levels of awareness. This finding aligns with research indicating that experience and exposure to evolving medical knowledge contribute to increased awareness [7]. Younger doctors, while technologically savvy and adept, may benefit from targeted educational programs to enhance their awareness and bridge the generational gap in preventive practices [8].

Specialty-based differences were stark, with endocrinologists exhibiting the highest awareness levels (95%), emphasizing the pivotal role of specialization in diabetes-related fields. General medicine practitioners demonstrated intermediate awareness (80%), while doctors from other specialties lagged behind (70%) [2,9]. These variations underline the need for tailored interventions, as previously suggested by Baker R et al, [10] in their study on diabetes knowledge among healthcare professionals.

Years of experience also played a significant role, with doctors over 15 years of practice

exhibiting the highest awareness. This aligns with the concept of experiential learning, where cumulative years of exposure to patient cases contribute to heightened disease awareness [11]. Interventions targeting early-career doctors may prove instrumental in addressing the lower awareness levels observed in this subgroup.

Comparing our results with existing literature, the observed gaps in prediabetes awareness and practice are consistent with global trends. A study by Heidemann C et al [12] revealed a similar disparity, with healthcare professionals demonstrating higher awareness but suboptimal translation into preventive practices. These international parallels suggest shared challenges in implementing preventive measures across diverse healthcare systems.

The study's limitations include potential recall bias and the reliance on self-reported practices, which may lead to overestimation. Additionally, the cross-sectional design limits causal inferences. Future research could adopt longitudinal approaches to track changes in awareness and practices over time.

Conclusion:

The cross-sectional study sheds light on a notable disparity between awareness and practice among Indian doctors in the context of prediabetes. While a substantial proportion of participants demonstrated awareness of prediabetes, the integration of routine screening and lifestyle counseling into clinical practice remains limited. The findings emphasize the urgent need for targeted educational interventions aimed at healthcare professionals across different age groups, specialties, and experience levels. Bridging the gap between knowledge and practical implementation is essential to effectively address prediabetes and enhance preventive measures within the Indian healthcare system. The study calls for proactive initiatives, such as training programs and continuous medical education, to empower doctors in actively identifying and managing prediabetes,

ultimately contributing to the broader effort to mitigate the growing burden in the country.

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