Assessment of Glycaemic Status of Physicians in a Diabetes Conference in India

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ABSTRACT

Introduction: Diabetes is taking the form of a pandemic. All ages and all sections of society are affected by it and physicians are no exception to it.

Aim: To know the glycaemic status and level of glycaemic control among the physicians who were attending a National Diabetes Conference.

Materials and Methods: A cross-sectional study was conducted at a national conference "Diabetes India" held in Delhi in February 2017. Physicians and Endocrinologists were the delegates. All physicians willing for assessment of their Glycaemic status were included and HbA1C was done.

Data was analysed and mean, percentage and p-value were calculated.

Results: Out of 108 physicians, 3 (2.78%) had impaired glucose tolerance, 54 (50%) had diabetes mellitus and 51 (47.22%) were euglycaemic. Out of 51 physicians, only 3 physicians (5.88%) had HbA1C less than or equal to 5.6, 9 (17.65%) had HbA1C more than 6.5, 39 (76.47%) had impaired glucose tolerance.

Conclusion: Very high incidence of diabetes mellitus and impaired glucose tolerance was found among physicians and endocrinologist in this study and the alarming result warrants further research with more participants.

INTRODUCTION

The four leading chronic diseases in India, as measured by their prevalence, in descending order: Cardiovascular Diseases (CVDs), diabetes mellitus, Chronic Obstructive Pulmonary Disease (COPD) and cancer. All four of these diseases are projected to continue to increase in prevalence in the near future [1].

According to diabetes world atlas 2015, there were 415 million diabetes cases globally, of which 69.2 million were from India, making it one of the highest burden of the country. The prevalence of diabetes globally and in India in 2015 was 8.8% and 9.3% respectively [2]. It has been estimated by International Diabetes Federation that in India, more than half (52.1%) of all people with diabetes, are unaware of their disease [2]. Even among known diabetes patients, less than one third have their diabetes under good control [3,4].

All age groups and all sections of society are affected by it and physicians are no exception including those who are involved in care and management of diabetic patients. This study was conducted to learn about the glycaemic status and level of glycaemic control among the physicians who were attending National Diabetes Conference.

MATERIALS AND METHODS

This cross-sectional study was conducted at a National Conference of Diabetes "Diabetes India" held in Delhi in February 2017. General Physicians and Endocrinologists were the delegates in the conference.

Inclusion criteria: All physicians willing for assessment of their Glycaemic status.

Exclusion criteria: Physicians who denied participating in the study, physicians having known malignancy, pancytopenia, renal failure, liver failure and cardiac failure.

All physicians were subjected to a brief history after obtaining his/her informed consent. Glycaemic status of all participating physicians
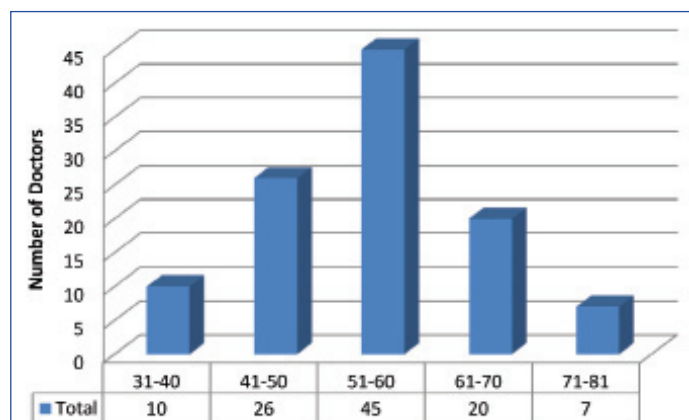
was asked and HbA1C of all participants was done by TQHbA1c Gen.3 (NGSP certified) of Roche Diagnostics International Ltd. Statistical analysis was done by SPSS version 22.0. Percentage, mean and p-values were calculated using SPSS version 22.0.

RESULTS

Out of about 3000 delegates, a total of 108 physicians were included in the study who satisfied the inclusion and exclusion criteria and willing to participate in study [Table/Fig-1].

In this study, mean age was 54.19±10.01 years with minimum age 35 years and maximum age 81 years. Out of total 108 physicians, 12 physicians (11.11%) were female and 96 physicians (88.89%) were male. Male to Female Ratio was 8:1.

According to self declared glycaemic status of 108 physicians, 3 physicians (2.78%) had known impaired glucose tolerance, 54 physicians (50%) had diabetes mellitus and 51 physicians (47.22%) were non-diabetic.

	31-40	41-50	51-60	61-70	71-81
Total	10	26	45	20	7

[Table/Fig-1]: Age group distribution (years).

HbA1C	Unknown Glycaemic Status	Known Diabetic		Known IGT
		On Treatment	Not on Treatment	
5-5.5	1	0	0	0
5.5-6	15	2	0	0
6-6.5	25	13	0	1
6.5-7	8	20	5	2
7-7.5	1	11	1	0
7.5-8	1	1	1	0
Total	51	47	7	3

[Table/Fig-2]: HbA1C in different groups of physicians.

Out of 54 physicians who had diabetes, 48 (89%) were male and 6 (11%) were female; 47 (87%) were taking treatment and 7 (13%) physicians were not taking any kind of treatment/alternative medicine or non-pharmacological life style interventions (p-value>0.05).

Out of 7 physicians who had diabetes but not taking treatment, 5 (71.43%) had HbA1C more than 6.5 but less than 7 while it was more than 7 in 2 (28.57%) physicians (p-value>0.05).

Out of 47 physicians taking treatment for diabetes, 35 physicians (74.47%) had HbA1C less than 7 and 12 physicians (25.53%) had HbA1C more than 7.

Out of 51 physicians who didn't have diabetes as per their declared glycaemic status, only 3 (5.88%) had HbA1C less than or equal to 5.6, 9 (17.65%) had HbA1C more than 6.5, 39 physicians (76.47%) had impaired glucose tolerance.

Out of 3 physician who stated them as IGT status as per their declared glycaemic status, 2 were found having HbA1C more than 6.5 [Table/Fig-2].

DISCUSSION

The global prevalence of diabetes has grown from 4.7% in 1980 to 8.5% in 2014, during which time prevalence has increased or at best remained unchanged in every country. According to International Diabetes Federation, 425 million adults were living with diabetes in 2017 [2].

The largest number of people with diabetes were estimated for the WHO South-East Asia and Western Pacific Regions, accounting for approximately half the diabetes cases in the world [5].

In India, a study conducted by Hegde SKB et al., estimated a prevalence of Diabetes Mellitus to be 15.6% [6]. Gupta A et al., in their study among physicians reported that the prevalence of diabetes was 9.4% among males and 12.9% among females [7]. Prevalence of Diabetes in this study is 50% in Indian physicians.

According to study conducted by Ramachandran A et al., age standardised prevalence of diabetes in India is 12.1% with no gender difference [8].

Regular physical activity reduces the risk of diabetes and raised blood glucose, and is an important contributor to overall energy balance, weight control and obesity prevention – all risk exposures linked to future diabetes prevalence [9]. Being overweight or obese is strongly linked to diabetes. Despite the global voluntary target to halt the rise in obesity by 2025 [10], being overweight or obese has increased in almost all countries and sedentary life style of physician can be a major cause of higher prevalence of diabetes among them.

Incidence of impaired glucose tolerance in India is 14% according to study conducted by Ramachandran A et al., [8]. Incidence of Impaired glucose tolerance in this study is 2.78%.

High prevalence of diabetes mellitus (50%) was found in physicians and endocrinologists attending the conference. The proportion of undiagnosed type 2 diabetes varies widely – a recent review of data from seven countries found that between 24% and 62% of people with diabetes were undiagnosed and untreated [11]. A total of 17.65% physicians who were unaware of their glycaemic status previously, turned out to be diabetic in this study which warrants the need of regular screening for diabetes in physicians. No comparable data could be found for this study.

CONCLUSION

A very high prevalence of diabetes mellitus and impaired glucose tolerance is found among Physicians and Endocrinologists in this study. However, this study was done on small number of doctors and not representative of all specialities of medical sciences and geographical regions of India and the world but the alarming results warrant further research with many more participants.

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