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Prevalence of type 2 diabetes in the urban population of Allahabad district, India

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Abstract
The worldwide prevalence of diabetes mellitus has risen dramatically in the developing countries over the past two decades. Most of the worldwide rise is thought to be type 2 diabetes linked to the "metabolic syndrome" – the cluster of metabolic perturbations that includes dyslipidemia, hypertension, and insulin resistance. Regular screening of adults is essential for early detection and care. India is the shelter of number of people with diabetes mellitus. Allahabad district, (Uttar Pradesh) has very limited studies on Diabetes mellitus awareness and prevalence in this district. A cross-sectional study on Prevalence and assessment of knowledge was done. This study on adults and elderly age in the different area of Allahabad was taken with structured questionnaire used to assess the knowledge of diabetes and Random blood sugar test done to detect diabetes. The prevalence of Diabetes mellitus was highest in George Town area i.e. 14.3% due to sedentary life style and lowest in Muthiganj area i.e. 07.00% due to moderate life style. But relevant knowledge about Diabetes is very in both areas. There is very little data on the level of awareness and prevalence about diabetes in developing countries like India. Such data is very important to plan the public health programs and Health camps. This study was taken up to identify, investigate and evaluate knowledge and practice through exploratory and evaluatory research.

Keywords: Diabetes mellitus, Prevalence, National Diabetic Control Program, Cross-sectional study

1. Introduction

India has the second largest Diabetes population with an estimate of 65 million affected people, as of 2013. The prevalence of diabetes has been well documented in a battery of recent papers (Shaw et al 2010). These publications were foreshadowed by studies of previously Westernized Indian populations elsewhere, and they illuminate distinctive features of diabetes in India. Type-2 diabetes results from a genetic predisposition and lifestyle factors especially sedentary lifestyle, characterized by high calorie intake with less physical activity. Type-2 Diabetes also known as non-insulin-dependent or adult-onset diabetes mellitus, this form of the disease is far more common than type-1 (insulin dependent or juvenile-onset) diabetes mellitus. Recently, type-2 diabetes was viewed as a disease of overfed, sedentary lifestyle's people of European ancestry. But it is now exploding around the world owing to the spread of Western culture. In India, a wide range of outcomes for different groups was buried within the average diabetes prevalence of 8% (Mohan et al. 2008b). Prevalence is only 0.7% for non-obese, physically active, rural Indians. According to research, it reaches 11% for obese, sedentary, urban Indians; and it peaks at 20% in the Ernakulum district of Kerala, one of India's most urbanized states. Among lifestyle factors predicting the incidence of diabetes in India, some are familiar from the West; whereas others turn expectations upside down (Mohan et al. 2008a). In India, as in the West, diabetes is ultimately due to chronically high levels of blood glucose, and some of the clinical consequences are similar. The age of onset in India has been shifting towards every younger people even within the past decade among Indians in their late teens, 'adult-onset' diabetes already manifests itself more often than does 'juvenile onset' diabetes . Diabetes mellitus (DM) refers to a group of common metabolic disorders that share the phenotype of

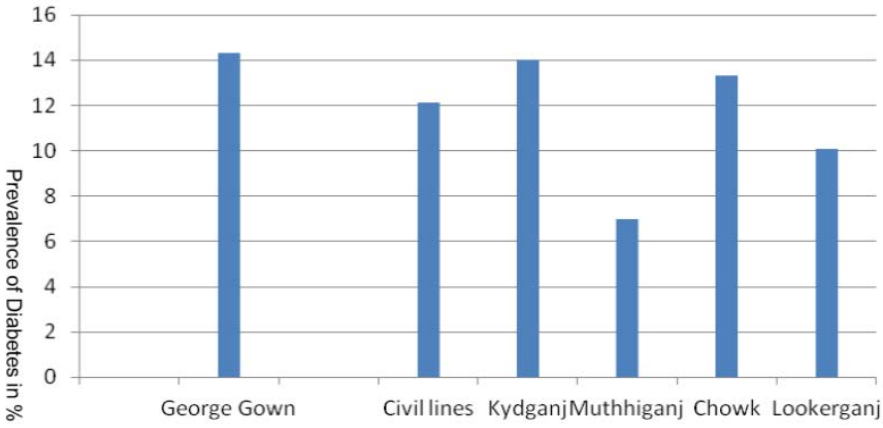
hyperglycemia. Depending on the etiology of the DM, factors contributing to hyperglycemia include reduced insulin secretion, decreased glucose utilization, and increased glucose production (Power et al. 2008). There are an estimated 40 million persons with diabetes in India 2007 and this number is predicted to rise to almost 70 million people by 2025 by which time every fifth diabetic subject in the world would be an Indian (Sicree et al. 2006)

Objectives

The objective of the study was to find out the prevalence of diabetes in the urban population of Allahabad District, present study also finds out the diabetes in different age groups, educational status.

Methods

Cross-sectional household survey was conducted among 630 persons (369 males and 261 females) (25-62 years) in various localities of Allahabad district viz. Civil Lines, Kydganj, Mutthiganj, Sabji Mandi Chowk, Lookerganj, Gorge Town and Ashok Nagar. Basic data regarding awareness, knowledge, traditional beliefs, treatment practices and other issues were included in the questionnaire.



Graph showing the % of prevalence in the various localities

Results

The survey revealed 369 males and 261 females with type 2 diabetes in the population of the Allahabad district. This study was carried out in a period of 12 months (January-December 2013). Data was carried out by Chief Dietician of Nova Specialty hospital and studied at JPNA Trauma Centre AIIMS New Delhi. The prevalence was highest George Gown area *i.e.* 14.3% due to sedentary and urban life style and lowest in Mutthiganj area *i.e.* 07.00% due to moderate and rural life style. Present study also finds out the diabetes in different age groups, educational status.

Conclusions

This study shows that sedentary life style, improper food habits, late night working habits are most affecting reasons for diabetes. Consumption of alcoholic beverages and smoking habits leads to generation of free radical in body which also develops leads to diabetes.

Educational status of the studied population group:

S. No.	Characteristics	Male in No.	Female in No.	Total No.
1	Illiterate	17	21	38
2	Primary	58	42	100
3	Secondary	48	33	81
4	Higher secondary	84	16	100
5	College	45	23	68
6	professional	98	25	123

Prevalence of Diabetes in various studied places:

S. No.	Locality	Prevalence
1	George Gown	14.3
2	Civil lines	12.1
3	Kydganj	14.0
4	Muthhiganj	07.0
5	Sabji mandi chowk	13.3
6	Lookerganj	10.1

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