

A HOSPITAL-BASED OBSERVATIONAL STUDY- PREVALENCE OF CHRONIC DISEASES: DIABETES MELLITUS -2, HYPERTENSION AND HYPOTHYROIDISM IN INDIA

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ABSTRACT

DM-2, HTN and Thyroid are highly prevalent disorder in our community. This is a small scale study conducted over a period of three months in SDA Diamond Hospital, Surat that evaluates the prevalence of DM-2, HTN, and Hypothyroidism. A total of 4984 were enrolled. Where 10.7% (503 pt.) of patients seems to have disorder among this three or both HTN + DM-2. According to study percentage DM-2 was 3.6%, HTN- 2.5%, HTN+DM-2 – 3.10%, and Hypothyroidism- 1.5%. this study generally focuses on the prevalence of chronic disease.

KEYWORDS:- Diabetes Mellitus-2, Hypertension, Hypothyroidism, Chronic diseases, prevalence.

INTRODUCTION

Chronic disease- A disease or condition that usually lasts for 3 months or longer and may get worse over time. Chronic diseases tend to occur in older adults and can usually be controlled but not cured. The most common types of chronic disease like HTN, DM-2, hypothyroidism etc.^[1]

Hypothyroidism- Hypothyroidism (Underactive thyroid) is a condition in which your thyroid gland doesn't produce enough of certain crucial hormones.

Hypothyroidism may not cause noticeable symptoms in the early stages. Over time, untreated hypothyroidism can cause a number of health problems, such as obesity, joint pain, infertility and heart disease.^[2]

DM-2- Type 2 diabetes is an impairment in the way the body regulates and uses sugar (glucose) as a fuel. This long-term (chronic) condition results in too much sugar circulating in the bloodstream. Eventually, high blood sugar levels can lead to disorders of the circulatory, nervous and immune systems.

In type 2 diabetes, there are primarily two interrelated problems at work. Your pancreas does not produce enough insulin — a hormone that regulates the movement of sugar into your cells — and cells respond poorly to insulin and take in less sugar.

Type 2 diabetes used to be known as adult-onset diabetes, but both type 1 and type 2 diabetes can begin during childhood and adulthood. Type 2 is more common in older adults, but the increase in the number of children with obesity has led to more cases of type 2 diabetes in younger people.^[3]

Hypertension- Blood pressure is the force exerted by circulating blood against the walls of the body's arteries, the major blood vessels in the body. Hypertension is when blood pressure is too high. Hypertension is diagnosed if, when it is measured on two different days, the systolic blood pressure readings on both days is ≥ 140 mmHg and/or the diastolic blood pressure readings on both days is ≥ 90 mmHg. The prevalence of hypertension varies across regions and country income groups. The WHO African Region has the highest prevalence of hypertension (27%) while the WHO Region of the Americas has the lowest prevalence of hypertension (18%).^[4]

1) MATERIALS AND METHOD

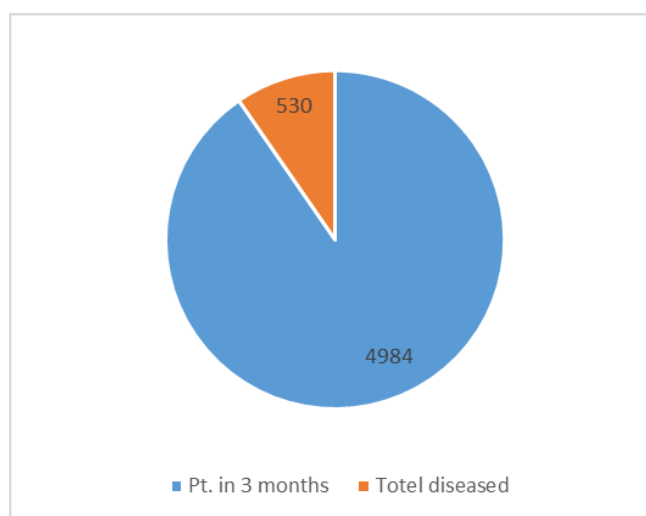
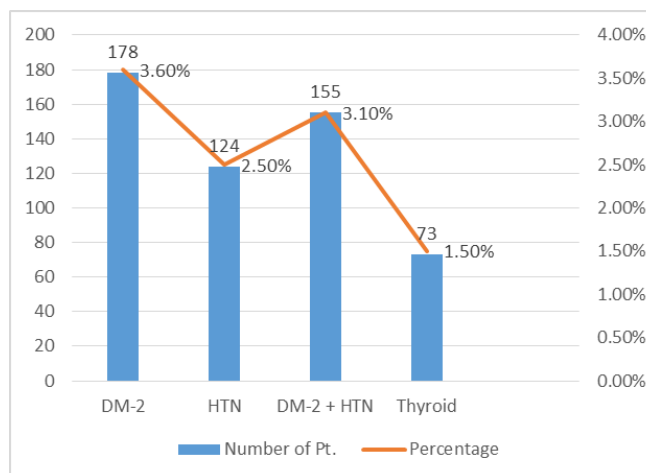
The study was conducted in SDA Diamond hospital, Surat. This observation study was conducted by collecting the data of DM-2 patients, Hypertensive patients, and hypothyroidism patients attending to hospital. The number of patients having DM-2, HTN, and Hypothyroidism were noted and total number of patients having these chronic diseases in period of three months was observed. For statistical analysis Tabulation in Microsoft Excel was use.

2) RESULT

The total of 4984 patients were included in the study. Where 10.7% (503 pt.) of patients seems to have disorder among this three or both HTN + DM-2. According to study DM-2

was in 3.6%, HTN- 2.5%, HTN+DM-2 – 3.10%, and Hypothyroidism- 1.5%. This study shows that prevalence of DM-2 is greater than Hypothyroidism and HTN.

Disease	Number of Pt.	Percentage
DM-2	178	3.60%
HTN	124	2.50%
DM-2 + HTN	155	3.10%
Thyroid	73	1.50%



Pt. in 3 months	4984
Total diseased	530

3) DISCUSSION

Chronic disease such as hypertension, diabetes mellitus II, and hypothyroidism are highly prevalent disorders in the community. According to the a research article published in journal of thyroid research on 9 August 2018 –(Prevalence and Associations of Hypothyroidism in Indian Patients with Type 2 Diabetes Mellitus) were total 1152 patients were included in the

study. Clinical hypothyroidism is seen around one ten of Indian population of with type two diabetes and subclinical hyperthyroidism is found in another 5 % of patients.

An article published on 9th march Prevalence of Hypothyroidism in the Population of West Bokaro Coal Mine Area, Jharkhand: A Hospital-Based Observational Study, In total, 1484 individuals of both sexes attending the outpatient department (OPD) of Tata Central Hospital, West Bokaro, Jharkhand. The percentage of the population having hypothyroidism was 24% in this study, which is higher than that reported in other parts of India.

According to another study, the nationwide prevalence of thyroid disorders, particularly hypothyroidism, in adults residing in various urban cities that represent diverse geographical regions of India. Hypothyroidism was found to be a common form of thyroid dysfunction affecting 10.9% of the study population. The prevalence of undetected hypothyroidism was 3.47% i.e., almost one-third of the hypothyroid patients (186 out of 587) were diagnosed for the first time during the course of study-related screening.

An article published in journal of epidemiology and global health, In 2017, approximately 462 million individuals were affected by type 2 diabetes corresponding to 6.28% of the world's population (4.4% of those aged 15–49 years, 15% of those aged 50–69, and 22% of those aged 70+), or a prevalence rate of 6059 cases per 100,000.

In the article published in Dove press journal: diabetes, metabolic syndrome and obesity: Targets and Therapy 16 September 2013, conducted a systemic literature review, were searches of electronic PubMed, Embase and Cochrane library to identify observational studies of hypertension and obesity prevalence in type two diabetes. From 2,688 studies, 92 observational studies provided prevalence rates for hypertension and/or obesity specifically in adults with T2DM. Fifteen studies of specific subtypes of hypertension or subpopulations with T2DM were subsequently excluded, leaving 78 studies (in 77 articles) for inclusion in this article. Of these, 61 studies reported hypertension prevalence.

4) CONCLUSION

According to the hospital based observational study of three-month prevalence of above mention chronic disease- HTN, DM-2, Hypothyroidism in three months is 10.7% from the total patients enrolled. In this study the above mentioned chronic disease were diagnosed for the first time during the course of study related screening that is three months period. Both

HTN and hypothyroidism are disease that exist as comorbid condition with type two diabetes in most of the patients.

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