

# Magnitude of Hypertension and Associated Factors among Adult Diabetes Patients in Debre Tabor General Hospital, Debre Tabor, Northwest Ethiopia, 2019

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## ABSTRACT

**Background:** Despite being preventable disease, globally hypertension is among top ten leading causes of death. Hypertension, which is the most prevalent and independent cardiovascular risk factor in the general population, is extremely common problem in diabetics. To date there was no study done in Debre Tabor General Hospital to assess the magnitude of hypertension and associated factors among adult diabetics.

**Objective:** assess the magnitude of hypertension and associated factors among adult diabetics in Debre Tabor General Hospital, Debre Tabor, Ethiopia, 2019.

**Methods:** The study design was cross sectional and 228 diabetics were selected by systematic random sampling method. Face to face interview and observation techniques were used to collect data. Data were entered into Epi-data version 4.4.1 and exported to SPSS Version 20 for further analysis. Descriptive statistics was used to summarize data. A bivariate binary logistic regression model was used to select candidate variables for the final model. Multivariable binary logistic regression analysis was used to identify independently associated factors of hypertension among diabetes patients. An adjusted odd ratio was used to assess association between variables and 95% Confidence interval was used for statistical significance.

**Results:** The overall prevalence of hypertension among diabetes clients in this study was 53.5% with 95% CI [47.7%-60.2%]. Urban [AOR=2.6(1.3-5.4)], having family history of hypertension[AOR=3.2(1.3-7.7)], suffering from overt diabetes for more than five years(AOR=7.5(2.7-21.4)), not controlled Fasting blood sugar [AOR=4.5(2.1-9.8)], not frequently consuming fruits[AOR=2.7(1.1-6.5)] not frequently consuming vegetables[AOR=7.9(3.6-17.2)] frequently adding salt to food(AOR=3.8(1.1-13.8)] and body mass index(Kg/m<sup>2</sup>) $\geq$ 25(AOR=2.9(1.4-6)] were independently associated with HTN.

**Conclusion and recommendation:** The prevalence of hypertension among diabetes patients in this study was high (53.5%). Therefore it is better to design strategies for diabetes clients to lower their blood pressure in addition to anti-hypertensive medication and home to home blood pressure screening program for diabetic patients should be considered.

**Keywords:** Hypertension; Diabetes mellitus; Prevalence; Factors; Ethiopia

## CONCLUSION AND RECOMMENDATION

The prevalence of hypertension among diabetes patients in this study was high. More than half (53.5%) of diabetes patients in this study were hypertensive. Individuals with both hypertension and diabetes are at high risk for both micro vascular and macro vascular

complications of DM. Both are recognized as important risk factors for atherosclerosis, cardiovascular diseases including myocardial infarction and stroke. The two diseases often multiply the risk for complications if they coexist. Diabetic patients with hypertension should be treated with appropriate antihypertensive drugs and

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carefully monitored to ensure satisfactory blood pressure control and prevention of the end-organ complications of hypertension [1,2]. The results in this study concluded that there was a significant association between residence, family history of hypertension, fasting blood sugar, duration of DM, eat saturated oil, adding salt to food, fruits and vegetables consumption and body mass index.

**For Debre Tabor General Hospital:** It is better to design strategies for diabetes patients to practice eating fruits and vegetables frequently ,to reduce saturated oil consumption, how to reduce obesity and control their FBS and BP in addition to pharmacologic medications.

**For South Gondar Zone Health Department:** The health department had better to work with health institutions (i.e. Hospitals and health centers) in the prevention and control of hypertension among diabetes patients by helping them to design and apply strategies in each health institution and home to home blood pressure screening program for DM patients should be considered in the health extension packages.

**For Amhara Regional Bauru and FMOH:** These institutions had better to promote the importance of life style modifications in preventing hypertension through mass media and different mechanisms [3-5]. In addition to government concern, prevention of hypertension need societal and community as well as NGOs support. Therefore, health system policy makers should prioritize to prevent/control coexistence of non-communicable chronic diseases in this case HTN among DM patients.

**For Researchers:** I would like to recommend conducting prospective

cohort and community based studies to overcome the limitations of this study on the prevalence of hypertension and associated factors among DM patients considering serum cholesterol level and lipid profiles, institutional and professional factors, psychological factors and factors related to diabetes complications [6,7].

## REFERENCES

1. Hauser JFK. Harrison's Principles of Internal Medicine. 20th ed. MC GrawHill Education; 2018.
2. WHO. A global brief on Hyper tension World Health Day. 2013.
3. Anto. Determinants of isolated systolic hypertension among diabetic patients visiting the diabetic clinic at the Tamale Teaching Hospital, Northern Ghana. 2016; 16(4):1151-1156.
4. Demitri N, Member S, Zoubir AM. Measuring Blood Glucose Concentrations in Photometric Glucometers Requiring Very Small Sample Volumes. IEEE Trans Biomed Eng 2017; 64(1):28-39.
5. Muleta S, Melaku T, Chelkeba L, Assefa D. Blood pressure control and its determinants among diabetes mellitus co- morbid hypertensive patients at Jimma University medical center , South West Ethiopia. Clin Hypertens 2017; 23: 29.
6. Hurst C, Thinkhamrop B, Tran HT. The Association between Hypertension Comorbidity and Microvascular Complications in Type 2 Diabetes Patients : A Nationwide Cross-Sectional Study in Thailand. Diabetes Metab J 2015; 39(5): 395-404.
7. Asresahegn H. Prevalence and associated factors of hypertension among adults in Ethiopia. A community based cross-sectional study. BMC Res Notes 2017 Nov 28;10(1):629.