

Prevalence, diagnosis, treatment and control of hypertension, diabetes and their co-occurrence, and its correlates in India using NFHS-5 data

Maya Singh* and Gyan Prakash Singh

Department of Statistics, Banaras Hindu University, Varanasi 221 005, India

Hypertension and diabetes are the two most prevalent non-communicable diseases in India, and their exposure is increasing fast with time. In the present study, an attempt is made to assess its prevalence (P), diagnosis (D), treatment (T) and control (C) in three mutually exclusive groups of individuals aged 30–79 who are only hypertensive (OH), individual with only diabetes (OD) and hypertensive as well as individual with diabetes (HD) and its correlates based on fifth round of the National Family Health Survey (NFHS-5) with the help of chi-square test and multivariate logistic regression. The prevalence, diagnosis, treatment and control (PDTC) rates of the disease among OH were 21.7%, 26.9%, 23% and 10.7% respectively, and it was 11.4%, 17.1%, 16.4% and 5.1% among OD, followed by 9.9%, 24.6%, 22.4% and 3.1% among HD. They also exhibited significant associations (P -value < 0.05) and risks, such that rural (odds ratio (OR): 0.628), and female OR: 0.876) had a lower risk of coexistence compared to urban and male respectively. Individuals who were divorced (OR: 1.137), age group 70–79 (OR: 7.468), smokers (OR: 1.71) and consuming alcohol (OR: 1.100), as well as those overweighted, had a higher chance of HD. In conclusion, addressing these risk factors with association and the geographical distribution of PDTC of HD in India could potentially enhance public health in the region.

Keywords: Diabetes, hypertension, multivariate logistic regression, odds ratio, risk factor.

systolic and diastolic pressure. Systolic blood pressure (SBP) represents the pressure in blood vessels when the heart contracts or beats, whereas diastolic blood pressure (DBP) represents the pressure in the arteries when the heart is at rest between beats. Hypertension is identified when the SBP exceeds 140 mmHg and/or the DBP surpasses 90 mmHg or if the patient is on hypertension medication. According to the World Health Organization's 2019 report on hypertension, an estimated 1.3 billion (33%) persons aged 30–79 years have hypertension, with 54% diagnosed, 42% treated and 21% controlled. In India, 188.3 million (31%) adults aged 30–79 have hypertension, with 37% diagnosed, 30% treated and only 15% are controlled².

Diabetes is classified into type 1 and type 2. Type 1 diabetes is characterised by insufficient insulin production and necessitates daily insulin delivery, while type 2 diabetes prevents the body from correctly processing insulin, resulting in high glucose levels. Diabetes is determined in adults with a blood glucose level of 140 mg/dl or higher or those who are undergoing diabetes treatment³. Diabetes is the ninth largest cause of death and one of the four most common non-communicable diseases in the world⁴. According to the International Diabetes Federation (IDF), 537 million people had diabetes in 2021, and individuals with diabetes are expected to increase in the following years. The number of people with diabetes in India, currently about 40.9 million, is projected to increase to 69.9 million by 2025 unless urgent preventive measures are