

Prevalence of Hypertension and Diabetics Among Adults in Himachal Pradesh

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Hypertension and diabetic are a serious health condition which further exacerbates the problem of heart, brain and kidney diseases along with other health issues. According to WHO factsheet an estimated 1.28 billion adults aged 30-79 years worldwide have hypertension and estimated 46 percent of adults with hypertension are unaware that they have the condition. The number of adults with hypertension increased from 594 million in 1975 to 1.13 billion in 2015, with the increase seen largely in low- and middle-income countries. This increase is due mainly to a rise in hypertension risk factors in those populations. Less than half of adults (42 percentages) with hypertension are diagnosed and treated. Approximately 1 in 5 adults (21 percentages) with hypertension have it under control. Hypertension and diabetes are major contributor in causes of premature death worldwide. One of the global targets for non-communicable diseases is to reduce the prevalence of hypertension by 33 percentages between 2010 and 2030.

The recent report of NFHS indicates a high prevalence of obesity, hypertension and elevated random blood glucose levels in Indian men and women. NFHS 5 (2019-2020) provides data on population, health and nutrition at the district, state and national levels. The current round had incorporated certain improvements by including individuals above the age of 15 years in the assessment of biomarkers such as random blood glucose and blood pressure. Blood pressure is written as two numbers. The first (systolic) number represents the pressure in blood vessels when the heart contracts or beats. The second (diastolic) number represents the pressure in the vessels when the heart rests between beats. Diabetes is measured by pricking the tip of finger and meter is used to read the blood sugar levels and normal range of sugar levels is 90 to 130mg/dl(5.0 to 7.2mmol/L) for adults. So it is need of time to understand how hypertension and diabetics prevalence varies in across the states and districts of India. All this will help in framing the policies for better living conditions.

Himachal At Glance:

The state is well known for its rich flora and fauna. Forests covered about 27.72 percent of area. The boundaries of state has been spread around in 15,433 sq.km. It contains a wide variety of forests. At the lowest elevations of the state, along the borders with neighbouring Punjab and Haryana. The region extends from the Shivalik range of mountains. The projected population of state is **75.71 Lakhs** as per census 2021. The density of population is **123 per sq km** which is lower than national average 382 per sq km. As per Niti Aayog 2016 report, Total fertility Rate is 1.7 lesser than India's average TFR of 2.3. Religion wise Himachal Pradesh population, Hinduism is the major religion with 95% are Hindu, followed by 2 percent by Muslim population. All other religions like Christianity, Buddhist, Sikh and Jain are below one percent. Himachal Pradesh state economy depends on agriculture, horticulture and tourism. About 90 percent of Himachal Pradesh population depends on agriculture, Apple is the principal crop of almost 7 districts like Shimla, Kulu, Chamba, Mandi, Kinnaur, Sirmour and Lahaul-Spiti. These districts roughly produce 7 to 8 lakh tonnes (800,000 tonnes) of apples a year. Himachal Pradesh has been the best agro climatic conditions due to this, a large number of agriculture and horticulture commodities like fruits, vegetables, flowers, medicinal plants and tea are grown here. Himachal Pradesh is divided into 12 districts, Lahaul and Spiti is the largest district with an area of 13,835 sq km and Hamirpur is the smallest district with 1,118 sq km. District population wise Kangra is the largest district with the population of 1,691,284 and smallest being Lahul & Spiti with 35,352. Below is the Himachal Pradesh district wise population as per Census 2011 and 2020 projection

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Some Reviews:

Prevalence of hypertension was higher among males and prevalence of obesity was higher in females. Odds ratio of hypertension was higher in males than in females for all the indices of obesity at 95 percent confidence Intervals (Shilpi and Gupta, 2010).

The presence of hypertension in diabetic patients substantially increases the risks of coronary heart disease, stroke, nephropathy and retinopathy. When Hypertension Combines with Diabetes, the risk of cardiovascular diseases increased by 7 percent which further contributes to the overall morbidity and mortality of already high risk population (Smita et.al.2015) .

As per the study by Shashal et .al(2012) conducted in India on Population about prevalence of Hypertension and diabetes patients with DM, HT was reported in more than half (59.5%) of the patients. 19.6% patients had previously reported diabetes and were diagnosed as a “new” case of HT, whereas 7.2 % patients

with known HT were diagnosed as a “new” cases of DM.

Pascal and Rifat Atun et. al(2015) Diabetes and hypertension prevalence is high in middle and old age across all geographical areas and sociodemographic groups in India, and hypertension prevalence among young adults is higher than previously thought. Evidence on the variations in prevalence by state, age group, and rural vs urban location is critical to effectively target diabetes and hypertension prevention, screening, and treatment programs to those most in need

Hypertension, and diabetes increase the risk of non-communicable diseases. This study has been planned to study the prevalence the prevalence of diabetes and hypertension in Himachal Pradesh, and its variation by sex and districts. Data on these diseases among men and women aged ≥ 18 years were obtained from the Fifth round of National Family Health Survey conducted throughout India and between from 16 July, 2019 to 5 November, 2019 in Himachal Pradesh. In NFHS survey, a total of 10,698 **households**, 10,368 women, and 1,477 men were covered under this survey

Methodology: NFHS data was used to study the prevalence of Hypertension and diabetes in Himachal Pradesh. Excel sheet were used for graphical data analysis.

Results and Discussions

1.Prevalence of Hypertension and Diabetes among Women

Fig: 1 Hypertension Among Women in Hiamchal Pradesh

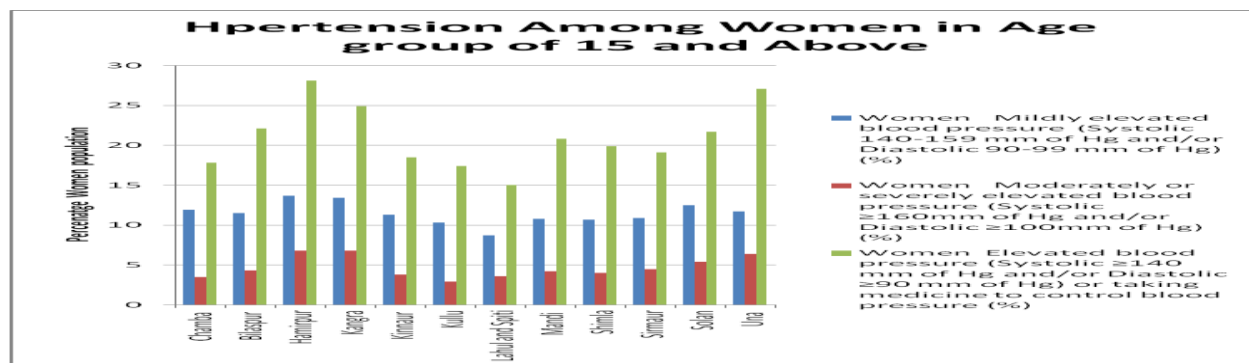


Fig:2 Diabetes Among Women in Himachal Pradesh

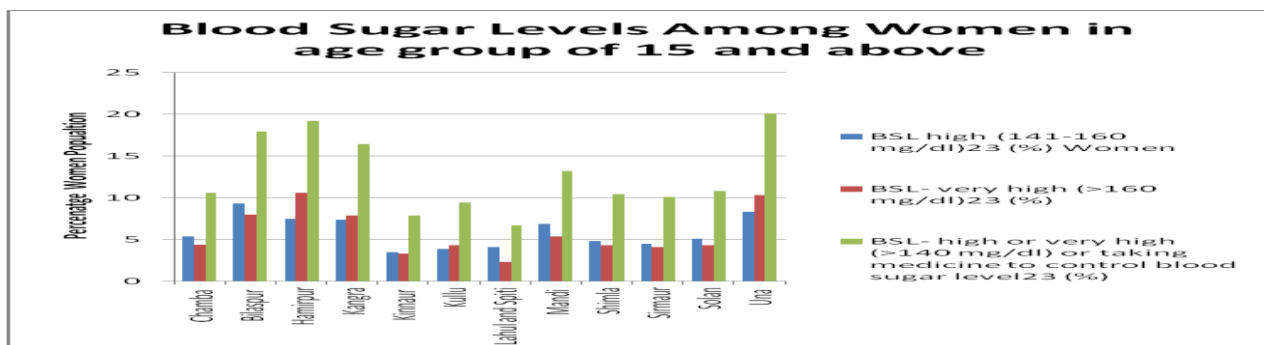


Fig 3. Prevalence of Hypertension among Men

Prevalence of Diabetes among Men

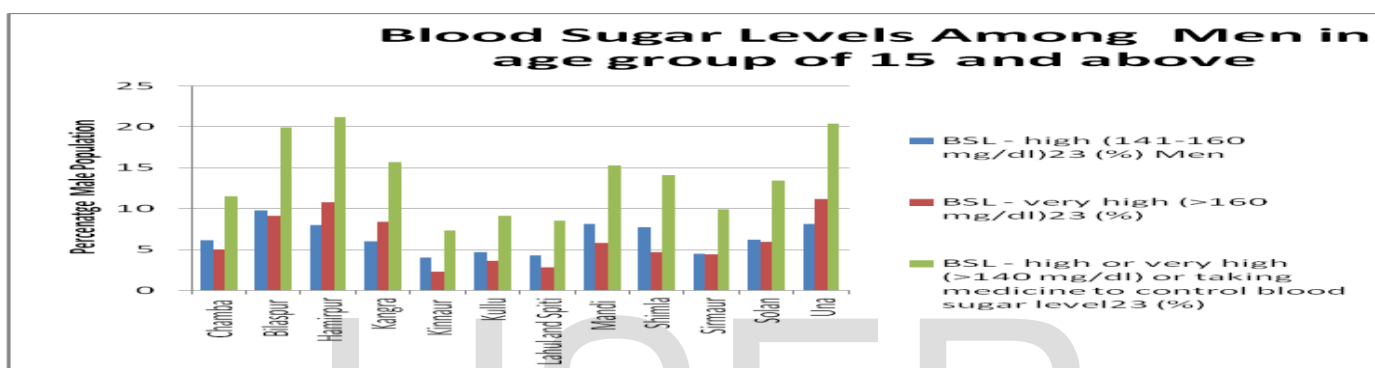


Fig:5 Prevalence of Hypertension and Diabetes among Adults in Himachal Pradesh

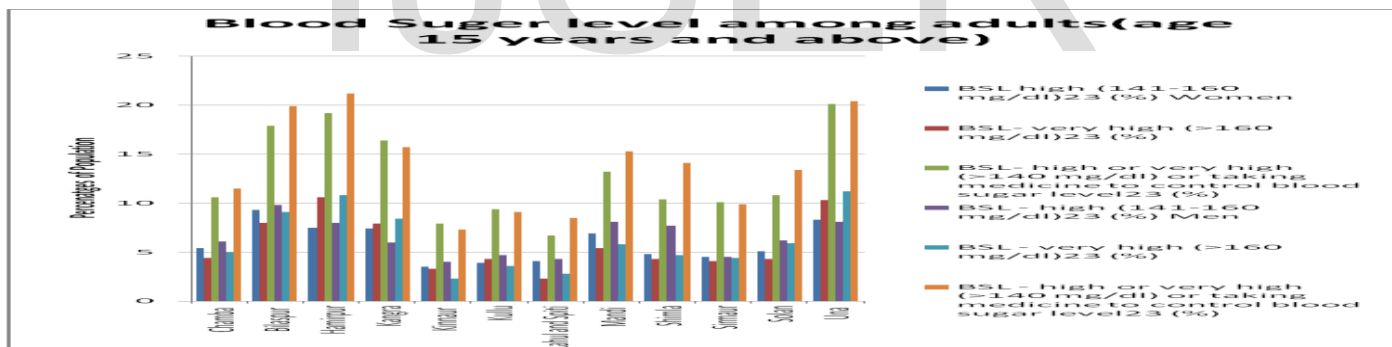
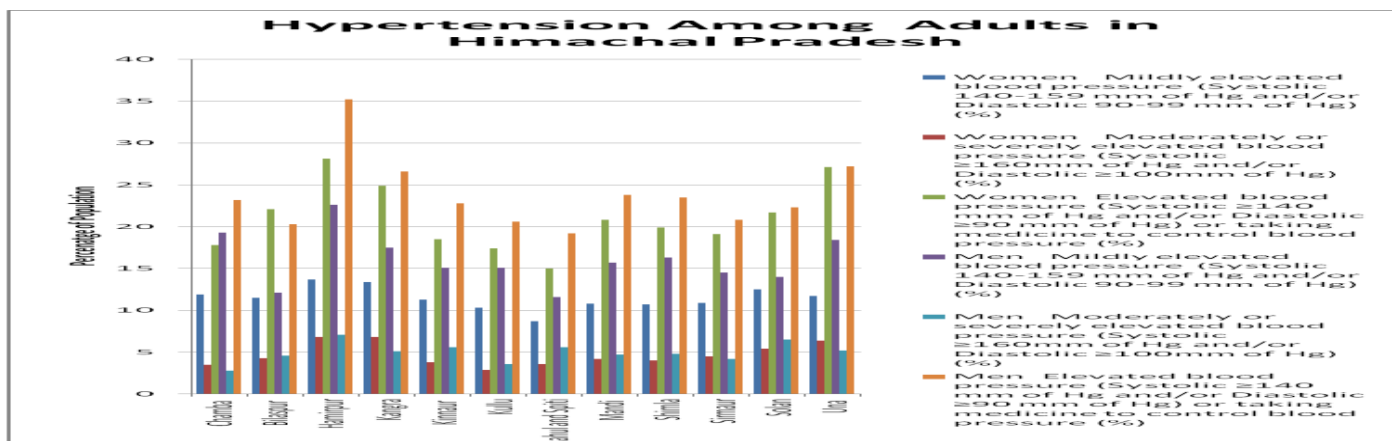


Fig:6 Prevalence of Hypertension among Adults among Men



Results and Discussion : Hamirpur, Kangra, Solan and Una districts are emerging districts and due to increasing urbanisation, and sedantary lifestyle people are experiencing problem of hypertension. NFHS-5 data reveals that women of these three districts witnessed the problem of elevated blood pressure. The issue of hypertension among women adults in age group of 15 and above in these districts is due to developmental factors and sedentary life. While on the other side it has been observed that people from the districts like Lahul and spiti, Kullu and Kinnaur followed by Bilaspur and Chamba experiences comparatively lesser prevalence of hypertension among women folkore. Nearly 28.1 percent adults women as per survey were reported to be taking medicine to control hypertension followed by 27.1 in Una district and 24.9 percent in Kangra districts. Lesser physical activities, dietary pattern and environmental factors are contributory factors in these areas. While on the other side, where the hypertension is less prevalence, the people of these districts are comparatively hard working and remain physically active throughout of their life and mostly lead a stress free life. Equal prevalence has been seen in case of Women and Men taking medicine for hypertension in Una district while Hamirpur district (35.2) percent witnessed higher number of Men in Himachal Pradesh taking medicine to control hypertension followed by Una (27.2 percent) and Kangra (26.6 percent). The Men from Hamirpur (22.6 percent), Chamba district with prevalence of 19.3 percent reported to have elevated blood pressure levels and Kangra with 17.5 percent recorded in NFHS -5 Survey. While moderately or severely elevated blood pressure levels recorded in Hamirpur district followed by Solan (6.5) and Kinnaur districts along with Lahul spiti having equal prevalence of 5.6 percent. It has been often observed that women folkore is more physically active while men used to have excessive smoking which further adds to burden of hypertension. Here again it has been depicted by NFHS survey data that Bilaspur and Una have district witnessed the higher prevalence of Diabetes among both the sexes. Hamirpur, Kangra and Mandi too have comparatively higher proportion of people taking medicine for controlling blood sugar levels. It has been observed from the data that Women

Men and resorted to medicine to control Diabetes and Hypertension . Higher literacy levels as revealed from the various government surveys and awareness about disease may be the contributory factor in higher proportion of respondents taking medicine to control disease. It has been clear from survey data that rising blood sugar level is more serious issue among Men . Himachali men have more tendency to acquire diabetes than the women folk.. While in district wise compression Bilaspur and Una districts are leading followed by Hamirpur , Kangra and Mandi. It has indicated from results that these are relatively plain areas and have hot climate in comparison to other districts. Urbanisation and development might have impact on rising blood sugar levels. People of these district relatively physically less active. It has been witnessed from the data that women of Himachal are comparatively in better health position and at lesser risk of acquiring NCDs.

References:

. Lacroix P, Houinato et.al (2018), NCD risk factors in Malawi: Population characteristics Matter, Diabetes Endocrinol. 2018 Mar;6(3):163-164. doi: 10.1016/S2213-8587(17)30433-3. Lancet, Epub 2018 Jan 19.PMID: 29371078

Midha and AK, Singh ,(2009) , Prevalence and determinants of hypertension in the Urban and rural population of a north Indian district. Dec, 6(3) 268. PMID 20803917.

Adegoke Oand Agabi et.al (2022), The impact of sex on blood pressure and anthropometry trajectories from early adulthood in a Nigerian population : Insights into Women's cardiovascular disease risk across the lifespan, Jul,22(1):303, PMID 358695545

Yach and Hofman KJ. Et.al (2004), The global burden of chronic diseases: overcoming impediments to prevention and control. J Am Med Assoc. 2004; 291:2616–2622. – PubMed

Smita et.al, (2015), Hypertension and Diabetes In India: A Review, Academia, Accelerating the world's IP Innovative Publication Pvt. Ltd.

Shilpi Gupta and S. Kapoor (2010), Sex differences in blood pressure levels and its association with obesity indices: who is at greater risk, Medicine Ethnicity & disease

H Shashal et .al(2012), hypertension in India—Results from the Screening India's Twin Epidemic (SITE)

Study, Diabetes technology & therapeutics volume 14, number 1, 2012, 8-15

Shashank R Joshi and Rakesh M Parikh(2007), India - Diabetes Capital of the World: Now Heading Towards Hypertension, JAPI, Editorial, May, Vol. 55,323-324

Shashank R. Joshi , et al(2012), Prevalence of Diagnosed and Undiagnosed Diabetes and Hypertension in India—Results from the Screening India’s Twin Epidemic (SITE) Study, Diabetes technology & therapeutics volume 14, number 1, 2012, 8-15

Pascal Geldsetzer and Rifat Atun et.al (2018), Diabetes and Hypertension in India: A Nationally Representative Study of 1.3 Million Adults, DOI: 10.1001/jamainternmed.2017.8094

Camila Manrique et.al(2010), *Obesity and cardiovascular disease in women*, International Journal of Obesity

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