

Behavioural Risk Factors and Mildly Elevated Blood Pressure among Men in Uttar Pradesh: Evidence from District-Level Data

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Abstract: Purpose- The present paper examines the relationship between the consumption of alcohol, the use of tobacco and mildly elevated BP (Blood Pressure) in men aged 15 years and above in all the districts of Uttar Pradesh. The present paper aims to study the factors influencing the level of blood pressure across the districts of Uttar Pradesh.

Methodology- The data used in this study has been taken from National Family Health Survey-5 (NFHS-5), exploring 73 districts of Uttar Pradesh. Which includes the variables; tobacco usage, consumption of alcohol, and level of blood pressure among men across the districts of Uttar Pradesh. Furthermore, linear regression analysis was also done to understand the effect of consumption of alcohol and tobacco use on elevated blood pressure.

Findings- the findings of the study explains that the linear regression applied here shows that 15.6% variation is seen in mildly elevated blood pressure in men ($R^2 = 0.156$). The usage of tobacco shows the statistically significant relationship with mildly elevated blood pressure in comparison to the alcohol consumption.

Originality- The paper provides result on the association between behavioural risk factors and the level of blood pressure among men across the districts of Uttar Pradesh using the data from NFHS-5...

Keywords: Alcohol Consumption; Tobacco Use; Mildly Elevated Blood Pressure; NFHS-5; Uttar Pradesh.

INTRODUCTION

The problem of High Blood Pressure is now becoming one of the biggest health concerns across worldwide and is also one of the leading factors in several diseases such as, stroke, cardiovascular and sometimes the premature mortality. As we know, India is one of the developing economy due to which a major shift has been observed towards the urbanisation which has become the significant challenge and these shifts cause hypertension but it is also the challenge due to urbanisation, change in lifestyle, unhealthy diet patterns and many behavioural risk factors such as the consumption of alcohol and usage of tobacco (World Health Organization [WHO], 2021). The elevated blood pressure is considered as an early stage of hypertension which increases the risk of severe health complications if not seen at an early stage (Gupta & Xavier, 2018).

Behavioural factors play a major role towards deterioration of health and also influence the level of blood pressure among adults. The usage of tobacco often leads towards the vascular damage, the stiffness in arteries also increases and major cardiovascular outcomes (Ambrose & Barua, 2004). In the same way, the excessive consumption of alcohol may contribute towards the hypertension and its effects can be seen on cardiovascular and also on nervous systems (Briasoulis et al., 2012). ..

Uttar Pradesh being the most populous state in India, so changes and variations in health behaviour and the way of lifestyle across all the districts in the state influences the level of blood pressure among men.

NFHS-5 (National Family Health Survey) provides detailed and comprehensive district-level health data, so it becomes easy to understand the behavioural determinants. So, this study analysis the association of alcohol consumption and tobacco consumption with mildly elevated blood pressure among the men aged 15 years and above in Uttar Pradesh using the linear regression analysis. The paper aims to study the health patterns and their implications for interventions in the desired districts

RESEARCH OBJECTIVES

To study the prevalence of consumption of alcohol among men aged 15 years and above across all the districts of Uttar Pradesh.

To examine the prevalence of usage of tobacco men aged 15 years and above across all the districts of Uttar Pradesh.

To carefully analyse the mildly elevated blood pressure level using NFHS-5 which provides the district-level data.

To examine the relationship between the alcohol consumption and usage of tobacco on elevated blood pressure level in men across all the districts of Uttar Pradesh.

To study and assess the combined effect of both alcohol consumption and tobacco usage on mildly elevated blood pressure on men using linear regression analysis.

LITERATURE REVIEW

Datta and Husain (2021) examined the association between the usage of tobacco and the hypertension among the women who are at reproductive stage in India. Used the data from NFHS-4 and logistic regression techniques and the result highlighted that the women having high usage of tobacco often leads to high hypertension in comparison to non-consumers.

Kumar et al. (2021) examined that how the consumption of alcohol and tobacco influence hypertension in men aged 15 years and above using the data from NFHS. The study found that there is a strong prevalence of hypertension among men with high consumption of alcohol and tobacco. The study also suggested some strong policy interventions.

Singh et al. (2022) studied the effect of smoking, the consumption of alcohol and also the usage of smokeless tobacco on hypertension among the adults in India using the NFHS-4 data. The study was done and multivariate logistic regression analysis was done and the results found that the consumption of alcohol and tobacco leads to create hypertension than to non-consumers.

Rajpal et al. (2025) examined the district-level variations in tobacco and alcohol consumption patterns across the country India during the time period from 2016-2021. The study uses the district-level data from NFHS and the results found that there are the regional variations in substance use behaviour and the study also points out the growing burden from the consumption of alcohol and tobacco in several districts of Uttar Pradesh.

Yadav and Siddiqui (2024) have conducted the comparative analysis of both alcohol and tobacco consumption patterns and their association of hypertension on women across India, using the data from NFHS-5. The study compared both the consumption patterns of alcohol and tobacco and the results suggested that there is higher prevalence of hypertension with those who have higher consumption of both the items although the association varied across regions and there exist other factors also which influence the health.

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<i>Year</i>	<i>Name of Authors</i>	<i>Objectives of the Study</i>	<i>Methodology</i>	<i>Findings</i>	<i>Research Gap</i>
2021	Datta & Husain	To examine the association between tobacco, use and uncontrolled hypertension among women of reproductive age in India.	Secondary data from NFHS-4 were analysed using logistic regression analysis.	Tobacco users were more likely to experience uncontrolled hypertension compared to non-users.	The study focused only on women and did not analyse district-level variations among men.
2021	Kumar et al.	To analyse the influence of alcohol and tobacco consumption on hypertension among Indian men aged 15–54 years.	NFHS data were analysed using discriminant analysis techniques.	Alcohol and tobacco consumption significantly contributed to hypertension prevalence among Indian men.	The study did not focus specifically on mildly elevated blood pressure or district-level analysis in Uttar Pradesh.
2022	Singh et al.	To study the combined effect of alcohol, smoking, and smokeless tobacco use on hypertension among adults in India.	A nationally representative cross-sectional study using NFHS-4 data and multivariate logistic regression analysis.	Combined use of alcohol and tobacco significantly increased the likelihood of hypertension.	The study examined national-level data and lacked district-specific analysis.
2024	Yadav & Siddiqui	To compare alcohol and tobacco consumption patterns associated with hypertension among Indian women.	Comparative analysis using NFHS-5 data.	Both alcohol and tobacco use were associated with higher prevalence of hypertension among women.	The study focused on women and did not analyse male behavioural patterns separately.
2025	Rajpal et al.	To examine district-level changes in alcohol and tobacco consumption patterns across India between 2016 and 2021.	District-level NFHS data were analysed to identify regional patterns in substance use behaviour.	Significant regional variation in alcohol and tobacco consumption was observed across Indian districts.	The study focused on behavioural prevalence and did not examine its association with blood pressure outcomes.

Table1: Summary of literature review; computed by the researcher.

RESEARCH GAP

The existing studies have conducted their analysis and examination at national-level, with such and limited attention to district-level. And previous studies have majorly focused on the hypertension and less concentration to elevated blood pressure level among men. Therefore, the study attempts to fill the gap by examining the effect of consumption of alcohol and tobacco on mildly elevated blood pressure level in men across all the districts of Uttar Pradesh using the NFHS-5 data.

METHODOLOGY

The paper is entirely based on the secondary data which has been taken from NFHS-5(National Family Health Survey-5), as this represents largest health survey at national level conducted in India by MoHFW (Ministry of Health and Family Welfare 2021). The study constitutes 73 districts of Uttar Pradesh and all these districts were used for analysis.

DEPENDENT VARIABLE- Mildly Elevated Blood Pressure

INDEPENDENT VARIABLE- Alcohol and Tobacco consumption among men aged 15 years and above.

Linear regression analysis is also applied for better understanding of the association between behavioural risk factors and level of blood pressure. Statistical Methods such as regression is usually used to evaluate the relationship between lifestyle patterns and cardiovascular risk factors(Whelton et al., 2018).

FINDINGS

DISTRICTS	MEN AGE 15 YEARS AND ABOVE WHO CONSUME ALCOHOL (%)	MEN AGE 15 YEARS AND ABOVE WHO USE ANY KIND OF TOBACCO (%)	MILDLY ELEVATED BLOOD PRESSURE
AGRA	20.9	46.1	4.3
ALIGARH	16.9	37	16.3
AMBEDKAR NAGAR	16.5	52.9	13.6
AMETHI	9.1	49.3	14.3
AURAIYA	11.4	46.8	16.8
AZAMGARH	14.7	44.1	18.8
BAGHPAT	12.9	31.8	18
BAHRAICH	12.2	59	18.1
BALLIA	9.9	35.6	15.2
BALRAMPUR	10.7	59.8	16.6
BANDA	12.4	63.3	12.7
BARABANKI	11.3	50.2	14.8
BAREILLY	17.8	39.3	12
BASTI	14.8	51.3	16.2
BIJNOR	15.1	36.5	16.8
BADAUN	14	41.9	10.3
BULANDSHAHR	17.2	34.4	18.8
CHANDAULI	16.9	44.8	15.6

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CHITRAKOOT	13.6	59.6	10.3
DEORIA	12.7	36.9	13
ETAH	15.1	46	14.2
ETAWAH	16.9	45.5	15.4
FAIZABAD	10.6	41.2	10.3
FARRUKABAD	19.7	49	12.1
FATEHPUR	18.5	60.8	13.3
FIROZABAD	17.7	45.6	15.2
GAUTAM BUDDHA NAGAR	17.3	29.7	14
GAZIABAD	13.4	22.3	15.5
GAZIPUR	10.5	37.7	15.7
GONDA	11.1	51.6	17.5
GORAKHPUR	18.9	44.6	13.4
HAMIRPUR	13.3	64.5	15.4
HAPUR	15.4	30.8	20.1
HARDOI	14.3	52.1	14.9
JALAUN	11.7	49.9	14.7
JAUNPUR	13.6	43.8	13.6
JHANSI	10.9	49.5	12.7
JYOTIBHA PHULLE NAGAR	14.4	38.9	18.5
KANNAUJ	15.3	50.9	10.8
KANPUR DEHAT	16.5	50.5	11.4
KANPUR NAGAR	15.1	46.8	11.7
KANSHIRAM NAGAR	17.1	44.7	12.8
KAUSHAMBI	13	53.6	6.7
LALITPUR	16.7	54.5	13.2
LUCKNOW	14.2	39.2	15.2
MAHAMAYA NAGAR	12.9	43.3	17.5
MAHARAJ GANJ	17.2	47.8	16.7
MAHOBAB	12.2	63.3	11.8
MAINPURI	15.2	41.3	13.7
MATHURA	13	42.9	17.1
MAU	13.6	39.3	20.8
MEERUT	13.7	24.4	17.4
MIRZAPUR	14	42.2	18.6

MURADABAD	13.8	32.6	18.3
MUZAFFARNAGAR	13.7	31.7	16.6
PILIBHIT	15.5	38.2	11.4
PRATAPGARH	9	41.4	13.2
PRAYAGRAJ	12.5	44.6	11.9
RAE BAREILY	16.5	50.4	11.8
RAMPUR	14.6	36.1	15.5
SAHARANPUR	14.1	30.7	18.2
SAMBHAL	16.7	40.3	16.7
SANT KABEER NAGAR	14.4	51.9	18
SANT RAVIDAS NAGAR (BADOHI)	7.7	36.5	15.9
SHAHJAHANPUR	20.4	49	11.1
SHAMLI	10.2	30.6	20.9
SHRAVASTI	8	64.2	13.1
SIDDHARTHAPUR	11.2	54.9	14
SITAPUR	13.8	59.7	16.1
SONBHADRA	24.1	54.1	16.8
SULTANPUR	10.1	47.5	16.4
UNNAO	16.7	50.9	15.7
VARANASI	13.4	38.4	20.9

Table 2: District-wise Distribution of Alcohol Consumption, Tobacco Use and Mildly Elevated Blood Pressure among Men in Uttar Pradesh

Source: National Family Health Survey-5 (NFHS-5), 2019–21; compiled and computed by the researcher.

District-wise Distribution of Alcohol Consumption, Tobacco Use and Mildly Elevated Blood Pressure among Men across all the districts of Uttar Pradesh

Table 2 represents the district-wise data on consumption of both alcohol and tobacco and mildly elevated level of blood pressure among men in Uttar Pradesh based on the NFHS-5 data. And the data reveals the variations across the districts in the prevalence of mildly elevated blood pressure and behavioural risk factors.

The districts with higher (%) percentage of men consuming alcohol are Sonbhadra (24.1%), followed by Agra (20.9%) and Shahjahanpur (20.4%), on the other hand, the districts with lower (%) percentage of men consuming alcohol are Sant Ravidas Nagar (7.7%) and Shravasti (8%). The usage of tobacco in men are comparatively higher across districts such as Hamirpur (64.5%), Shravasti (64.2%), and Banda and Mahoba (63.3%).

The prevalence of Mildly elevated blood pressure have shown variations across the districts of Uttar Pradesh, where the highest prevalence is seen in districts such as Shamli and Varanasi (20.9%), followed by Mau (20.8%) and Hapur (20.1%). And the districts such as Agra (4.3%) and Kaushambi (6.7%) have observed comparatively lower prevalence of mildly elevated blood pressure.

LINEAR REGRESSION ANALYSIS

Regression Analysis between Alcohol Consumption and Mildly Elevated Blood Pressure among Men

Linear Regression				
Model Fit Measures				
Model	R	R²		
1	0.179	0.032		
<i>Note.</i> Models estimated using sample size of N=73				
Model Coefficients - D				
Predictor	Estimate	SE	t	p
Intercept	16.931	1.676	10.1	<.001
alcohol consumption	-0.182	0.119	-1.53	0.13

Table 3: Multiple Linear Regression Analysis of Alcohol Consumption on Mildly Elevated Blood Pressure among Men in Uttar Pradesh.

Source: Computed by the researcher using NFHS-5 (2019–21) district-level data.

At first, linear regression analysis was conducted to study the relationship between the consumption of alcohol and the mildly elevated blood pressure among men aged 15 years and above across all the districts of Uttar Pradesh.

The R value from the model appeared to be 0.179 and the value of R² was 0.032, which explains that there was only 3.2% of variation in mildly elevated blood pressure in men by alcohol consumption.

The regression equation obtained was:

$$Y = 16.931 - 0.182(B)$$

where:

Y – represents the mildly elevated blood pressure among men.

B- represents the alcohol consumption of men aged 15 years and above.

($\beta = -0.182$) this shows the regression coefficient was negative, which explains that one-unit increase in consumption of alcohol will lead to 0.182 unit decrease in mildly elevated blood pressure among men. There is no statistically significant relationship ($p = 0.130 > 0.05$). Thus, the alcohol consumption does not significant predict mildly elevated blood pressure among men across all the districts of Uttar Pradesh.

Regression Analysis between Tobacco Use and Mildly Elevated Blood Pressure among Men

Linear Regression				
Model Fit Measures				
Model	R	R²		
1	0.357	0.128		
Note. Models estimated using sample size of N=73				
Model Coefficients - D				
Predictor	Estimate	SE	t	p
Intercept	19.56	1.6286	12.01	<.001
Tobacco consumption	-0.115	0.0357	-3.22	0.002

Table 4: Linear Regression Analysis of Tobacco Use on Mildly Elevated Blood Pressure among Men in Uttar Pradesh

Source: Computed by the researcher using NFHS-5 (2019–21) district-level data.

At second stage, linear regression analysis was conducted to study the relationship between the usage of tobacco and the mildly elevated blood pressure among men aged 15 years and above across all the districts of Uttar Pradesh.

The R value from the model appeared to be 0.357 and the value of R² was 0.128, which explains that there was only 12.8% of variation in mildly elevated blood pressure in men by tobacco consumption. This suggests the moderate explanatory power of this model.

The regression equation obtained was:

$$Y = 19.560 - 0.115(C)$$

where:

Y – represents the mildly elevated blood pressure among men.

C- represents the usage of tobacco among men aged 15 years and above.

($\beta = -0.115$) this shows the regression coefficient was negative, which explains that one-unit increase in tobacco consumption will lead to 0.115 unit decrease in mildly elevated blood pressure among men. This relationship was found to be statistically significant ($p = 0.002 < 0.05$).

The usage of tobacco is emerged to be the significant predictor of mildly elevated blood pressure

among men in the selected districts of Uttar Pradesh. This model suggests that there is significant association between the usage of tobacco and the mildly elevated blood pressure level in men.

C) Multiple Linear Regression Analysis of Alcohol Consumption and Tobacco Use on Mildly Elevated Blood Pressure among Men

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Model Fit Measures		
Model	R	R ²
1	0.397	0.157
Note. Models estimated using sample size of N=73		

Model Coefficients - D				
Predictor	Estimate	SE	t	p
Intercept	21.931	2.2087	9.93	<.001
Tobacco consumption	-0.114	0.0354	-3.23	0.002
Alcohol consumption	-0.175	0.1115	-1.57	0.121

Table 5: Multiple Linear Regression Analysis of Alcohol Consumption and Tobacco Use on Mildly Elevated Blood Pressure among Men in Uttar Pradesh

Source: Computed by the researcher using NFHS-5 (2019–21) district-level data.

At last, multiple linear regression was conducted to study the combined effect of alcohol consumption and the usage of tobacco among the men aged 15 years and above and their effect on, mildly elevated blood pressure across the districts of Uttar Pradesh.

The R value from the model appeared to be 0.397 and the value of R² was 0.157, which explains that there was only 15.7% of variation in mildly elevated blood pressure in men by tobacco consumption and alcohol consumption. This suggests the moderate explanatory power of this model.

The regression equation obtained was:

$$Y=21.931-0.114(C)-0.175(B)$$

where:

Y represents mildly elevated blood pressure among men,

B represents men aged 15 years and above who consume alcohol (%).

C represents men aged 15 years and above who use any kind of tobacco (%),

The regression coefficient for consumption of tobacco was appeared to be negative and statically significant ($\beta = -0.114$, $p = 0.002$) which explains that the one-unit increase in the consumption of tobacco will result in 0.114 unit decrease in mildly elevated blood pressure.

In the same way, the regression coefficient for alcohol consumption was also negative ($\beta = -0.175$), which explains that there will be an inverse relationship between alcohol consumption and mildly elevated blood pressure

Overall, the finding of the regression analysis explains that the consumption of tobacco emerged as a significant predictor of mildly elevated blood pressure among men. On contrary, the consumption of alcohol consumption did not show much sufficient effect on mildly elevated blood pressure

RESULTS AND DISCUSSION

The result of district-wise analysis of NFHS-5 data explains the substantial variations in both the consumption of alcohol as well as tobacco and mildly elevated blood pressure in men among districts of Uttar Pradesh.

When studied and analysed individually it was found that the consumption of tobacco is higher than alcohol consumption in most of the districts. The prevalence of mildly elevated blood pressure also varied across the regions.

The regression analysis explains that the alcohol consumption shows a weak and statistically non-significant relationship with mildly elevated blood pressure in men but the consumption of tobacco showed a statistically significant association with mildly elevated blood pressure in men.

Lastly, the combined regression model explains that the consumption of both alcohol and tobacco together explains the 15.7% variation in mildly elevated blood pressure among men. Thus, the findings suggest that the behavioural risk factors, especially tobacco plays an important role in influencing and increasing the blood pressure patterns in men across all the districts of Uttar Pradesh.

POLICY IMPLICATIONS

The finding of the paper highlights the need and requirement for public health intervention especially these interventions should be district-wise more and such interventions should be implanted which targets the behavioural risk factors among men in Uttar Pradesh.

Awareness programmes which are focused more on the harmful effects from the consumption of alcohol and tobacco should be strengthened in such districts where the prevalence is higher.

The regular blood pressure screening by the government healthcare should be provided to the people of all districts in order to reduce the burden of cardiovascular diseases.

LIMITATIONS OF THE STUDY

The study is purely based on secondary level data from NFHS and therefore there exist the behavioural and medical variations at individual level. The regression model analysis explains only the limited proportion for mildly elevated blood pressure and other factors such as dietary, genetics, and other lifestyle factors which may affect the blood pressure are not taken in the study. Furthermore, it can be said that the study establishes the association between the consumptions of alcohol, tobacco and mildly elevated blood pressure and not causation between the variables.

CONCLUSION

The study here examines the association between the consumption of alcohol, tobacco usage and mildly elevated blood pressure in men across the districts of Uttar Pradesh using the NFHS-5 data. The findings and the analysis conducted reveals that the tobacco consumption has shown statistically significance relationship with mildly elevated blood pressure but on the other hand the consumption of alcohol has did not show significant effect on mildly elevated blood pressure.

The study also highlights the need for targeted policy interventions in some districts where the prevalence is higher to improve the cardiovascular health outcomes among men across the selected districts of Uttar Pradesh.

Reference

- Ambrose, J. A., & Barua, R. S. (2004). The pathophysiology of cigarette smoking and cardiovascular disease. *Journal of the American College of Cardiology*, 43(10), 1731–1737. <https://doi.org/10.1016/j.jacc.2003.12.047>
- Briasoulis, A., Agarwal, V., & Messerli, F. H. (2012). Alcohol consumption and the risk of hypertension in men and women: A systematic review and meta-analysis. *The Journal of Clinical Hypertension*, 14(11), 792–798.

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<https://doi.org/10.1111/jch.12008>

Datta, B. K., & Husain, M. J. (2021). Uncontrolled hypertension among tobacco-users: Women of prime childbearing age at risk in India. *BMC Women's Health*, 21(1), 146. <https://doi.org/10.1186/s12905-021-01280-x>

Gupta, R., & Xavier, D. (2018). Hypertension: The most important non communicable disease risk factor in India. *Indian Heart Journal*, 70(4), 565–572. <https://doi.org/10.1016/j.ihj.2018.02.003>

International Institute for Population Sciences (IIPS) & ICF. (2021). National Family Health Survey (NFHS-5), 2019–21: India report. IIPS.

Kumar, S., Kumar, A., & Singh, R. (2021). Alcohol and tobacco influencing prevalence of hypertension among 15–54 years old Indian men: An application of discriminant analysis using National Family Health Survey (NFHS), 2015–16. *Clinical Epidemiology and Global Health*, 11, 100894. <https://doi.org/10.1016/j.cegh.2021.100894>

Ministry of Health and Family Welfare (MoHFW). (2021). National Family Health Survey-5 State Fact Sheet Uttar Pradesh 2019–21. Government of India. <https://main.mohfw.gov.in>

Rajpal, S., Kumar, A., Ronanki, S. et al. Changes in prevalence of alcohol and tobacco consumption across districts of India, 2016 and 2021. *BMC Public Health* 25, 1962 (2025). <https://doi.org/10.1186/s12889-025-23029-z>

Singh, P. K., Dubey, R., Singh, L., Singh, N., Kumar, C., Kashyap, S., Subramanian, S. V., & Singh, S. (2022). Mixed effect of alcohol, smoking, and smokeless tobacco use on hypertension among adult population in India: A nationally representative cross-sectional study. *International Journal of Environmental Research and Public Health*, 19(6), 3239. <https://doi.org/10.3390/ijerph19063239>

Whelton, P. K., Carey, R. M., Aronow, W. S., Casey, D. E., Collins, K. J., Dennison Himmelfarb, C., DePalma, S. M., Gidding, S., Jamerson, K. A., Jones, D. W., MacLaughlin, E. J., Muntner, P., Ovbiagele, B., Smith, S. C., Spencer, C. C., Stafford, R. S., Taler, S. J., Thomas, R. J., Williams, K. A. Wright, J. T. (2018). 2017 ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA guideline for the prevention, detection, evaluation, and management of high blood pressure in adults. *Hypertension*, 71(6), e13–e115. <https://doi.org/10.1161/HYP.0000000000000065>

World Health Organization. (2021). Hypertension. <https://www.who.int/news-room/fact-sheets/detail/hypertension>

Yadav, S., & Siddiqui, A. (2024). A comparative analysis of tobacco and alcohol consumption patterns underlying hypertension prevalence across Indian women: evidence from National Family Health Survey-5. *International Journal of Community Medicine and Public Health*, 12(1), 583–591. <https://doi.org/10.18203/2394-6040.ijcmph20244077>