Linkages between Raised Blood Pressure Risk and Occupation of Men of Age Group 25-54 years: Evidence from India

Introduction

The environmental conditions are rapidly changing and thus human health is facing a rapid transition. Some justifiable reasons for it are demographic ageing, rapid urbanization, and changing lifestyles (World Health Organization (2013). A global brief on Hypertension: Silent killer, global public health crisis, World Health Organization (WHO)). As suggested by Omran, the current cause of death is being dominated by non-communicable diseases (NCDs) such as cardiovascular diseases (CVDs), cancer, diabetes and lung diseases (Omran, 1971). Not just mortality, the burden of morbidity is also dominated by such chronic diseases globally and its burden is considerably accelerating and becoming a vital public health challenge. CVDs are the leading cause of death worldwide and the highest contributor of NCD deaths in India; around 45% of the NCD death are attributed to CVDs alone (Shil, A., Puri, P. & Prakash, R. J Public Health (2017). https://doi.org/10.1007/s10389-017-0876-2; World Health Organization (2013). A global brief on Hypertension: Silent killer, global public health crisis, World Health Organization (WHO)). Raised Blood Pressure or hypertension is a major but modifiable risk factor for coronary artery disease, heart failure, cerebrovascular disease and chronic renal failure (Devi *et al.*, 2013; Cai Le, Dong Jun, Lu Yichun, 2011; World Health Organization (2013). A global brief on Hypertension: Silent killer, global public health crisis, World Health Organization (WHO)). Hypertension is a major public health challenge worldwide because of its higher incidence and affiliated risks of cardiovascular and kidney disease (Patricia M Kearney *et al.*, 2005). Hypertension affects one billion people globally and it has been estimated that it kills 9 million individuals every day (Cai Le, Dong Jun, Lu Yichun, 2011); World Health Organization (2013). A global brief on Hypertension: Silent killer, global public health crisis, World Health

Organization (WHO)). It is the most dominant hazardous factor for mortality, and is ranked third as a cause of disability-adjusted life-years (DALY) globally (Patricia M Kearney *et al.*, 2005). India is no exception to this, where, the considerable burden of hypertension is significantly emerging as per the recent country-level survey estimates (International Institute for Population Sciences (IIPS) & Macro International (2015-16) National Family Health Survey (NFHS-4), 2015–16: India: Mumbai: IIPS; National Sample Survey Organization (2014). Morbidity, Health Care and the Conditions of the Aged. Ministry of Statistics and Program Implementation, Government of India, New Delhi; National Sample Survey Organization (2004). Morbidity, Health Care and the Conditions of the Aged. Ministry of Statistics and Program Implementation, Government of India, New Delhi). A study led by Anchala et al. suggest that hypertension is attributed to 57 percent of all stroke deaths and 24 percent of all coronary heart disease deaths in India (Anchala *et al.*, 2014).

Occurrence of chronic diseases usually is affected by age e.g. as age increases, the risk of development of any chronic diseases also increases, since the immunity of individuals gets weaker as age increases. Literature suggest that there is a preponderance of hypertension amongst Indian men. National level estimates also show a higher burden of hypertension among men. Thus, middle and older aged (25-54 years) men have been taken into consideration in the study. Literature examine the association between caste group, ethnicity and raised blood pressure mostly focusing on developed countries (Cottington *et al.*, 1986; Fund, 1970). Existing literature suggest that the lifestyle factors (e.g. obesity, excessive alcohol consumption and physical inactivity), lower socio-economic status (e.g. education and occupation) and genetic variants are associated with raised blood pressure (Hamano *et al.*, 2012; Grotto I, Huerta M, Sharabi Y (2008) Hypertension and socioeconomic status. Curr Opin Cardiol 23: 335–339; Chobanian *et al.*, 2003). Literature also examine about the relationship between occupation and chronic morbidities in the developed

countries mostly (House *et al.*, 1979; Cottington *et al.*, 1986). The occupation structure has been categorized into three kinds, Agriculture, animal husbandry, forestry, fishery etc., are collectively known as "primary" activities. Manufacturing industries, both small and large scale, are known as "secondary" activities. Transport, communications, banking and finance and services are "tertiary activities" in the country (Banu Sayira N., 2015; Changing Occupational structure and Economic Condition of Farm labourers in India: A Study. Retrieved from: https://www.indiastat.com/SOCIO_PDF/120/fulltext.pdf).

However agricultural workforce share declined in the country from 74 per cent in 1972-73 to about 53.2 per cent in 2009-10. On the other hand, the share of employment in industry increased from 11.2 per cent in 1972-73 to 14.9 per cent in 1993-94 and further to 21.5 per cent in 2009-10. Also the share of services in total employment increased from 14.6 per cent in 1972-73 to 25.4 per cent in 2009-10 (Banu Sayira N., 2015; Changing Occupational structure and Economic Condition of Farm labourers in India: A Study. Retrieved from: https://www.indiastat.com/SOCIO_PDF/120/fulltext.pdf). Such kind of occupational transition may affect the occurence of chronic diseases among the occupation groups which is much affected by the raised blood pressure. Interestingly, thirty years back, Cottington et al. examined that occupational stress and suppressed anger have a positive role on hypertension (Cottington *et al.*, 1986). But in India, research on linkages between raised blood pressure risk and occupation of the men, are much infrequent which uses the nationally representative data. Thus, to throw light on this unfocused research area, the present study mainly aims to (i) examine the linkages between occupation and raised blood pressure level in India among 25-54 years of men; (ii) to observe the role of background characteristics on the raised blood pressure level among different occupational

groups. The recently published country representative data will definitely extract recent estimates on this issue, which will definitely help Government and the policy planners to formulate various occupation specific strategies.

Materials & Methods

Data Sources

The entire study is based on the fourth round of the National Family and Health Survey (NFHS-4) data conducted during 2015-16, which is available on the Demographic and Health Survey (DHS) website (https://dhsprogram.com/data/dataset/India_Standard-DHS_2015.cfm?flag=1). All the NFHS surveys have been conducted under the stewardship of the Ministry of Health and Family Welfare (MoHFW), Government of India (GOI). MoHFW designated the International Institute for Population Sciences (IIPS), Mumbai, as the nodal agency for all the survey rounds. Similar to the earlier rounds, the recent round provides crucial insights on the different aspects of maternal, child, adolscent and adult health indicators. Moreover, NFHS-4 provides data on vital estimates of malnutrition, anemia, hypertension, HIV, and blood glucose levels through a series of biomarker tests and measurements have been provided.

2011 census lists were used as the sampling frame for the selection of the sampling units and a two stage stratified sampling design was adopted. The Primary Sampling Units (PSUs) in the survey were villages in rural areas and Census Enumeration Blocks (CEBs) in urban areas. Within each rural stratum, PSUs were selected based on probability proportional to size (PPS) sampling from the sampling frame used. In urban areas, CEBs were also selected through PPS sampling. In every selected rural and urban PSUs, an estimated number of households were segmented. Then two of the segments were randomly chosen for the survey using systematic sampling with probability

proportional to segment size. Therefore, an NFHS-4 cluster is either a PSU or a segment of a PSU. In the second stage, in every selected rural and urban cluster, households were randomly selected with systematic sampling. Four survey questionnaires (household, women, men and biomarker questionnaire) were used in 17 local languages using Computer Assisted Personal Interviewing (CAPI). The Biomarker Questionnaire covered measurements of height, weight, and hemoglobin for children, and in addition blood pressure and random blood glucose for women age 15-49 years and men age 15-54 years. Blood pressure was measured using an Omron Pressure Monitor to determine the prevalence of hypertension for both eligible men and women (International Institute for Population Sciences (IIPS) & Macro International (2015-16) National Family Health Survey (NFHS-4), 2015–16: India: Mumbai: IIPS). Blood pressure measurements for each respondent were taken three times with an interval of five minutes between the two consecutive readings. Total 6,01,509 households (HHs) were selected and among them, total 6,99,686 eligible women (4,99,627 married) of age 15-49 years and 1,12,122 eligible men (62,091 married) of age 15-54 years were interviewed. After the elimination of all the outliers as well as 15-24 years age group, this analysis is restricted to 73,876 eligible men in the age group 25-54 years.

Variable description

Dependent variable

The present study utilized raised level of blood pressure (hypertension) as the outcome variable for the whole analysis. It was computed for 25-54 years men using the average measured systolic and diastolic blood pressure (BP). It was computed by using the range of average systolic and diastolic blood pressure with reference to the blood pressure matrix provided by the survey itself. Total 8 categories of different blood pressure level were suggested. Further all the categories were clubbed to 3 only as per the range of average systolic and diastolic blood pressure, e.g. Optimal

BP, Normal and mildly elevated BP and Moderately and severely elevated BP. The blood pressure matrix used at NFHS-4 to compute the final outcome variable is as follows in **Figure 1**.

Figure 1: Different ranges of Hypertension based on average systolic and diastolic pressure, NFHS-4, 2015-16

AVERAGE SYSTOLIC	AVERAGE DIASTOLIC <80	<85	85-89	90-99	100-109	≥110
<120	1	2	3	4	5	6
<130	2	2	3	4	5	6
130-139	3	3	3	4	5	6
140-159	4	4	4	4	5	6
160-179	5	5	5	5	5	6
≥180	6	6	6	6	6	6

1	NORMAL (OPTIMAL)
2	NORMAL (MILDLY HIGH)
3	NORMAL (MODERATELY HIGH)
4	ABNORMAL (MILDLY ELEVATED)
5	ABNORMAL (MODERATELY ELEVATED)
6	ABNORMAL (SEVERELY ELEVATED)

Independent variables along with type of occupation considered are respondent's age, place of residence, educational status, religion, caste groups, occupation, marital status, wealth quantile and smoking & alcohol consumption. The whole list of outcome and independent variables are displayed in **Table 1** below.

Table 1: Description of the selected variables for 25-54 years men, India, NFHS-4, 2015-16

Sl. No.	Selected Variables	Type	Coding with label
	Dependent Variable		
1	Hypertension (Raised Blood Pressure)	Categorical	0= Optimal BP 1= Normal & mildly elevated BP 2= Moderately & severely elevated BP
	Independent Variables		
2	Age of the respondent	Categorical	1= 25-34 Years 2= 35-44 Years 3= 45-54 Years
3	Place of Residence	Categorical	1= Urban 2= Rural
4	Education	Categorical	0= No Education 1= Up to Primary 2= Above primary & below secondary 3= Above secondary & below higher secondary 4= Higher Education
5	Religion	Categorical	1= Hindu 2= Muslim

			3= Others
6	Caste	Categorical	1= Schedule Caste (SC) 2= Schedule Tribe (ST) 3= Other Backward Class (OBC) 4= Others
7	Occupation	Categorical	0= unemployed 1=Professional-technical-managerial-clerical 2= Sales 3= Agricultural 4= Services 5=Skilled and Unskilled
8	Marital Status	Categorical	0= Never Married 1= Ever Married
9	Wealth Index	Categorical	1= Poorest 2= Poorer 3= Middle 4= Richer 5= Richest
10	Smoking and Drinking	Categorical	0= None 1= Only Smoking 2= Only Drinking 3= Smoking and Drinking both

Methods

Age-adjusted prevalence rates of blood pressure was computed by direct standardization method. However, Census 2011 population structure was considered as the standard population here to compute the age standardized prevalence rates. We have not considered those cases who took prescribed medication for BP and whose BP was found to be normal. The formula to calculate the prevalence rate is as follows:

$$\text{Prevalence rate (PR)} = \frac{\text{All new and existing cases during a given time period}}{\text{Surveyed individuals during the same time period}} * 1000$$

A bivariate analysis followed by a chi-square test was conducted to examine the association between the selected socio-economic and demographic characteristics and the measured BP for the 25-54 years age group men, in the representative sample of India.

Statistical Analysis

An ordinal logistic regression model was used to assess the occupation wise adjusted effect of background characteristics on elevated BP. For an ordinal outcome variable with M categories, the Ordinal Logit Model can be written as

$$P\ (Y_i > j) = \frac{exp(\alpha j + Xi * ßj)}{1 + [exp(\alpha j + Xi * ßj)]} \quad , j=1, 2 \ldots M-1$$

Where, α_j's are the model intercepts, ßj's are the model coefficients, X_i's are the predictors of interest and Yi is the dependent variable in ordinal scale. Stata version 14 (StataCorp™, Texas) was used for the analysis. All the estimates computed in this study are derived by applying appropriate sampling weights provided in the dataset itself.

Results

Figure 2 depicts that as age increases prevalence of moderately and severely elevated BP also linearly accelerates among men in India and it was found to be highest (8.7 per 100 population) among 45-54 years aged men. **Table 2** explores the background characteristics wise age standardized prevalence (per 100 population) of elevated BP among men of age group 25-54 years in India, 2015-16. Age standardized prevalence of moderately and severely elevated BP among 25-54 years men in India was 5.14 (95% of CI: 5.09-5.19). It is found to be lower in rural mem as compared to their urban counterparts and interestingly it increases as educational status of men shifts from low to high. Among Christian-Jain-Buddhist religion (6.28), ST (5.66) and General category (5.58) population, prevalence is higher. It is much higher among men those who are belonging to professional-technical-managerial-clerical group (6.36), sales (6.11) and unemployed groups (5.75). **Figure 3** also displays the occupation wise differences in age standardized

prevalence of moderately and severely elevated BP among men of age 25-54 years in India. Prevalence increases as men move from poor to rich wealth quantile and among never married men (5.26) it is more. However, prevalence of moderately and severely elevated BP is highest among men those who only drink (6.27) and higher among those who both smoke and drink (6.48).

[Figure 2, 3 & Table 2 here]

Table 3 shows the output of stratified ordered logistic regression models showing the impact of socio-economic and demographic characteristics on different blood pressure level. Across all the occupation group as well as in case of total population age shows consistent results, i.e. as age increases from lower to higher, the risk of BP also accelerates linearly. In case of model 1 (total population), except residence and marital status, all the characteristics are associated with the raised BP. A linear pattern of proportional odds has been observed in case of education level. The proportional odds were found to be higher among men belonging to Christian-Jain-Buddhist religious and Scheduled Tribe (ST) group. Interestingly, the proportional odds of occurring optimal and mildly high BP vs moderately high and mildly/moderately/severely elevated BP is significantly greater among professional-technical-managerial-clerical and sales groups as compared to the unemployed population group. Hence, risk is found to be lower in case of agricultural group. The proportional odds were found to be more among richer quantile group. In case of smoking and drinking the proportional odds was very high among those who smoke as well drink and even higher among those who only drink. In case of model 2 (unemployed population) risk is more among men who have higher education and among those who belong to Christian-Jain-Buddhist religious and ST group. Also, it is more among richer wealth quantile, ever married group and highest among those who consume smoke as well as alcohol. Moreover, in case of model 3 (professional-technical-managerial-clerical occupation group), after adjusting

for other effect, Other Backward Castes (OBC) population show protective impact on the raised BP among men. Richer wealth quantile shows similar impact on the raised BP like unemployed group. Interestingly, in this group of population, odds were higher among those whose lifestyle behavioral factor solely includes alcohol consumption. Consistent findings can be observed in case of model 4 (sales group). Here also we can observe that among ST population odds of raised BP is higher. Model 5 depicts that men belonging rural areas show lower risk of raised BP. On the other hand, minor religious and caste group shows significant risk of raised BP. Wealth status and alcohol-smoking consumption status show similar effect which is consistent with model 1 and model 2. Model 6 depicts that except age and education, the remaining socio-economic and demographic characteristics show insignificant impact. Model 7 (skilled and unskilled workers) examines that odds of raised BP is more among men belonging to rural areas as compared to their urban counterparts. Moreover, other significant socio-economic and demographic characteristics show similar output which is more or less consistent with the other models.

[Table 3 here]

Conclusion

The present study comprehensively envelopes the evidences of linkages between occupation and raised blood pressure among men in the country. an urgent attention to the less focused occupational groups like unemployed, professional-technical-managerial-clerical and sales is necessary with a special emphasis is needed for not just to older males but middle-aged adults are also vulnerable in the country. Urgent need to effectively implement World Health Organization's (WHO) 'Best Buys' interventions at the grass root level through tax increase on alcohol and tobacco, bans on tobacco and alcohol advertising, promotion and sponsorship, health information

and warnings, public awareness through mass media on diet and physical activity etc. may help the situation to improve.

References

Anchala, R. *et al.* (2014) 'Hypertension in India: A systematic review and meta-analysis of prevalence, awareness, and control of hypertension', *Journal of Hypertension*, 32(6), pp. 1170–1177. doi: 10.1097/HJH.0000000000000146.

Cai Le, Dong Jun, Lu Yichun, S. Z. and Z. K. (2011) 'Multilevel Analysis of the Determinants of Pre-Hypertension and Hypertension in Rural Southwest China', *Public Health Reports*, 130(2), pp. 121–122. doi: 10.1177/1476127005050030.

Chobanian, A. V. *et al.* (2003) 'Seventh report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure', *Hypertension*, 42(6), pp. 1206–1252. doi: 10.1161/01.HYP.0000107251.49515.c2.

Cottington, E. M. *et al.* (1986) 'Occupational stress, suppressed anger, and hypertension.', *Psychosomatic medicine*, 48(3–4), pp. 249–60. doi: 10.1097/00006842-198603000-00010.

Devi, P. *et al.* (2013) 'Prevalence, risk factors and awareness of hypertension in India: A systematic review', *Journal of Human Hypertension*. Nature Publishing Group, 27(5), pp. 281–287. doi: 10.1038/jhh.2012.33.

Fund, M. M. (1970) 'The Effects of Race and Occupation on Hypertension Mortality Author (s): Jan Howard and Barbara L . Holman Source : The Milbank Memorial Fund Quarterly , Vol . 48 , No . 3 (Jul ., 1970), pp . 263-296 Published by : Wiley on behalf of Milbank Memorial', *The Milbank Memorial Fund Quarterly*, 48(3), pp. 263–296. Available at: http://www.jstor.org/stable/3349240.

Grotto I, Huerta M, Sharabi Y (2008) Hypertension and socioeconomic status. Curr Opin Cardiol 23: 335–339; Chobanian *et al.*, 2003.

Greiner, B. A. *et al.* (2004) 'Occupational stressors and hypertension: A multi-method study using observer-based job analysis and self-reports in urban transit operators', *Social Science and Medicine*, 59(5), pp. 1081–1094. doi: 10.1016/j.socscimed.2003.12.006.

Hamano, T. *et al.* (2012) 'Effect of Environmental and Lifestyle Factors on Hypertension: Shimane COHRE Study', *PLoS ONE*, 7(11). doi: 10.1371/journal.pone.0049122.

House, J. S. *et al.* (1979) 'Occupational Stress and Health among Factory Workers', *Journal of Health and Social Behavior*, 20(2), pp. 139–160. Available at: http://www.jstor.org/stable/2136435.

International Institute for Population Sciences (IIPS) & Macro International (2015-16) National

Family Health Survey (NFHS-4), 2015–16: India: Mumbai: IIPS.

National Sample Survey Organization (2004). Morbidity, Health Care and the Conditions of the Aged. Ministry of Statistics and Program Implementation, Government of India, New Delhi.

National Sample Survey Organization (2014). Morbidity, Health Care and the Conditions of the Aged. Ministry of Statistics and Program Implementation, Government of India, New Delhi.

Omran, A. R. (1971) 'The epidemiologic transition: a theory of the epidemiology of population change. 1971.', *The Milbank quarterly*. Milbank Memorial Fund, 83(4), pp. 731–57. doi: 10.1111/j.1468-0009.2005.00398.x.

Patricia M Kearney *et al.* (2005) 'Global burden of hypertension--analysis of worldwide data', *Lancet*, 365, pp. 217–223. doi: 10.1016/S0140-6736(05)17741-1.

World Health Organization (2013). A global brief on Hypertension: Silent killer, global public health crisis, World Health Organization (WHO).

Table 2: Background characteristics wise age standardized prevalence (per 100 population) of elevated blood pressure (BP) among men of age 25-54 years in India, NFHS-4, 2015-16

Background Characteristics	Moderately & Severely Elevated BP Prevalence Rate (per 100 population)
Occupation	
Unemployed	5.75 (5.56-5.95)
Professional-technical-managerial-clerical	6.36 (6.19-6.53)
Sales	6.11 (5.95-6.28)
Agricultural	4.01 (3.93-4.09)
Services	5.57 (5.40-5.75)
Skilled and unskilled manual	5.42 (5.32-5.51)
Residence	
Urban	6.00 (5.91-6.09)
Rural	4.62 (4.56-4.68)
Education	
Illiterate	3.69 (3.59-3.79)
Up to Primary	5.09 (4.92-5.26)
Above Primary and Below Secondary	5.37 (5.30-5.45)
Above Secondary and Below Higher Secondary	5.78 (5.62-5.94)
Higher Education	5.67 (5.54-5.81)
Religion	
Hindu	5.15 (5.09-5.20)

Muslim	4.57 (4.43-4.71)
Others	6.28 (6.06-6.52)
Caste	
SC	5.22 (5.10-5.33)
ST	5.66 (5.49-5.84)
OBC	4.93 (4.86-5.01)
Others	5.58 (5.48-5.69)
Marital Status	
Never Married	5.26 (4.98-5.56)
Ever Married	5.08 (5.03-5.13)
Wealth Index	
Poorest	3.22 (3.11-3.32)
Poorer	4.04 (3.94-4.15)
Middle	5.77 (5.66-5.89)
Richer	6.28 (6.17-6.40)
Richest	5.58 (5.48-5.69)
Smoking and Drinking	
None	4.43 (4.37-4.49)
Only Smoking	4.79 (4.59-5.00)
Only Drinking	6.27 (6.17-6.38)
Smoking and Drinking	6.48 (6.30-6.67)
India	**5.14 (5.09-5.19)**

Figure 2: Agewise prevalence of hypertension in India, NFHS-4, 2015-16

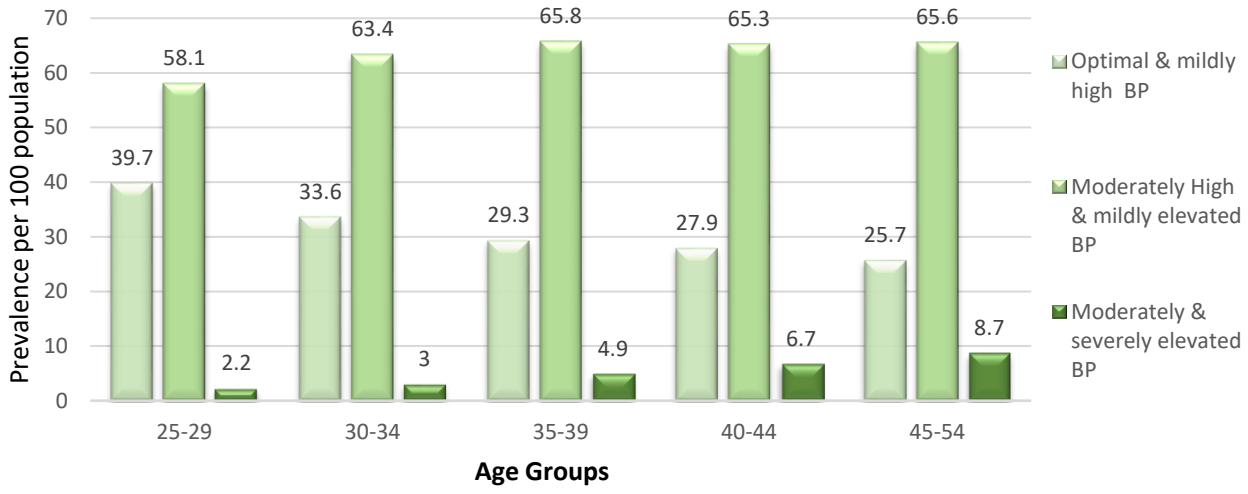

Figure 3: Occupationwise age standardized prevalnece of hypertension among men in India, NFHS-4, 2015-16

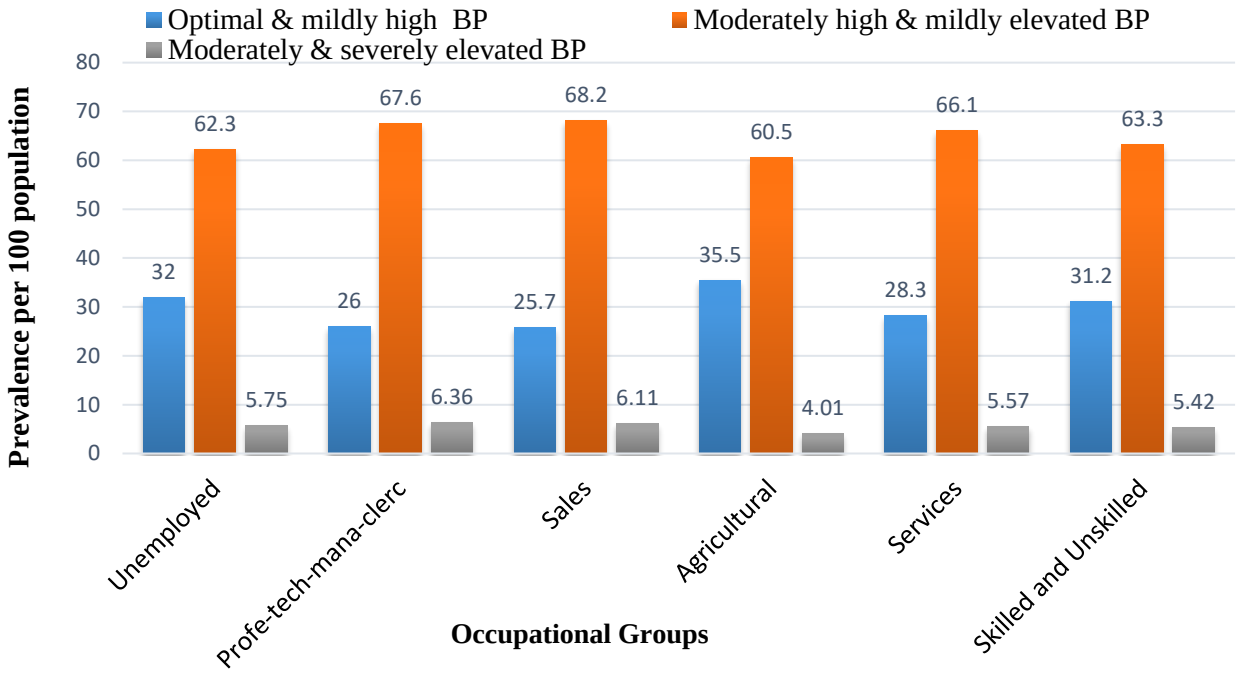

Table 3: Occupation wise outputs of ordered logistic regression model showing the adjusted odds ratios of different blood pressure level by socio-demographic characteristics among men of age 25-54 years in India, NFHS-4, 2015-16							
Background Characteristics	**Model 1: Total Population (AOR ± SE)**	**Model 2: Unemployed (AOR±SE)**	**Model 3: Professional-technical-managerial-clerical (AOR±SE)**	**Model 4: Sales (AOR±SE)**	**Model 5: Agricultural (AOR±SE)**	**Model 6: Services (AOR±SE)**	**Model 7: Skilled and Unskilled (AOR±SE)**
Occupation							
Unemployed (Ref.)	1.00						
Professional-technical-managerial-clerical	1.16 (0.07)*						
Sales	1.24 (0.07)***						
Agricultural	0.90 (0.04)*						
Services	1.10 (0.07)						
Skilled and unskilled	1.05 (0.05)						
Age							
25-34 Years (Ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
35-44 Years	1.90 (0.08)***	1.80 (0.27)*	1.94 (0.31)***	2.26 (0.30)***	1.72 (0.10)***	2.10 (0.36)***	1.96 (0.16)***
45-54 Years	2.24 (0.09)***	2.72 (0.37)***	2.78 (0.38)***	2.56 (0.35)***	1.93 (0.11)***	2.92 (0.42)***	2.13 (0.17)***
Residence							
Urban (Ref.)	1.00	1.00		1.00	1.00		1.00
Rural	1.01 (0.03)	0.99 (0.09)		0.96 (0.08)	0.77 (0.06)***		1.11 (0.06)*
Education							
Illiterate (Ref.)	1.00	1.00			1.00	1.00	1.00
Up to Primary	1.07 (0.05)	1.22 (0.23)			1.02 (0.07)	1.24 (0.37)	1.05 (0.09)
Above Primary and Below Secondary	1.08 (0.04)*	1.06 (0.13)			1.07 (0.05)	1.30 (0.20)*	1.01 (0.06)
Above Secondary and Below Higher Secondary	1.17 (0.06)***	1.42 (0.20)			1.20 (0.08)***	1.55 (0.31)*	0.96 (0.09)
Higher Education	1.16 (0.06)***	1.43 (0.23)*			1.07 (0.09)	1.40 (0.25)*	1.04 (0.13)
Religion							
Hindu (Ref.)	1.00	1.00		1.00	1.00	1.00	1.00

Muslim	0.94 (0.04)	0.86 (0.12)		0.90 (0.09)	1.03 (0.08)	0.83 (0.13)	0.85 (0.06)*
Others	1.14 (0.06)*	0.90 (0.17)		1.06 (0.18)	1.16 (0.09)*	1.18 (0.23)	1.30 (0.13)***
Caste							
SC (Ref.)	1.00	1.00	1.00	1.00	1.00	1.00	
ST	1.17 (0.05)***	1.40 (0.21)*	1.14 (0.19)	1.67 (0.29)***	1.13 (0.07)*	0.83 (0.14)	
OBC	0.90 (0.03)***	1.08 (0.12)	0.79 (0.09)*	1.01 (0.13)	0.84 (0.04)***	0.99 (0.11)	
Others	0.99 (0.04)	1.09 (0.14)	0.83 (0.11)	1.11 (0.15)	0.90 (0.06)*	1.25 (0.19)	
Marital Status							
Never Married (Ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ever Married	0.97 (0.04)	1.11 (0.12)*	0.87 (0.13)	1.07 (0.11)	0.90 (0.06)	0.85 (0.13)	0.98 (0.08)
Wealth Index							
Poorest (Ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Poorer	1.12 (0.04)***	1.31 (0.17)*	1.74 (0.47)*	1.09 (0.21)	1.07 (0.05)	1.06 (0.18)	1.15 (0.07)*
Middle	1.37 (0.05)***	1.50 (0.21)***	1.78 (0.42)*	1.41 (0.26)*	1.31 (0.07)***	1.16 (0.19)	1.43 (0.09)***
Richer	1.61 (0.07)***	1.91 (0.27)***	2.47 (0.57)***	1.77 (0.32)***	1.52 (0.09)***	1.13 (0.19)	1.63 (0.12)***
Richest	1.61 (0.08)***	1.69 (0.28)***	2.17 (0.48)***	1.68 (0.31)***	1.83 (0.14)***	1.01 (0.17)	1.73 (0.16)***
Smoking and Drinking							
None (Ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Only Smoking	0.97 (0.06)	1.20 (0.24)	0.85 (0.14)	0.98 (0.17)	0.89 (0.09)	1.11 (0.21)	0.98 (0.10)
Only Drinking	1.21 (0.03)***	1.22 (0.13)*	1.15 (0.12)*	1.06 (0.10)	1.24 (0.05)***	1.15 (0.13)	1.22 (0.07)***
Smoking and Drinking	1.17 (0.05)***	1.38 (0.20)*	1.26 (0.19)	1.43 (0.20)*	1.16 (0.09)*	1.02 (0.14)	1.04 (0.09)
AOR: Adjusted Odds Ratio, SE: Standard Error; '***' highly significant, '*' significant, rest insignificant; Only significant predictors are reported here							