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Prevalence and determinants of hypertension among business class community of Lahore, Pakistan

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ABSTRACT

Hypertension is one of the leading health issue in developing countries. There are many factors associated with hypertension like obesity, excessive intake of salt, smoking and drinking alcohol. Current study aims to assess the prevalence and determinants of hypertension among business class community in Lahore. A community based survey in Lahore was conducted to evaluate the prevalence and determinants in business class community aged 20- 45 year. Questionnaire was designed, translated into local language and 400 participants were interviewed as per structured questionnaire, collected data was analyzed using statistical software SPSS 22. The prevalence of hypertension among study population was 37.5%. Results were astonishing only 32% of hypertensive patients were taking antihypertensive pills. Being overweight was strongly associated with hypertension, also excessive salt intake and sedentary life style were the contributing factors. There is dire need of awareness to be related hypertension among business class community counselling them about salt intake, smoking and regular exercise.

Key Words: Smoking, Obesity, Cholesterol, Stress, Stroke, Socioeconomic status.

INTRODUCTION

Hypertension is considered to be a major issue in many developing countries. It is also as called silent killer which is correlated with other diseases like organ damage and other non-communicable diseases. The occurrence of hypertension is very high in world one billon individuals are suffering from hypertension and death ratio is also found to be very high i.e. approximately 7.1 million per year (Ogah and Rayner, 2013).

According to the world health organization statistics (2012), one billion adult people had a hypertension and it will be increased in upcoming years to 1.56 billion till 2050 (Keshari and Shankar, 2015). Hypertension is mainly associated with many social life issues. Excessive intake of salt, stress, physiological factors and alcohol consumption are the leading causes of hypertension (Ibrahim and Damasceno, 2012).

The occurrence of hypertension is associated with other risk factors and diseases like congestive heart failure (CHF), end stage renal failure (ESRD), stroke and coronary artery disease (Gupta *et al.*, 2016). According to the JNC 7 guidelines, hypertension is defined as when systolic blood pressure $\geq$ 140 mmHg or diastolic blood pressure $\geq$ 90 mmHg (Premkumar *et al.*, 2016).The recent studies have shown that South Asians population i.e. Pakistan, India, Bangladesh, Nepal and Sri Lanka contribute the highest ratio of the cardiovascular diseases compared to other countries. Previous studies have shown that the prevalence of hypertension reported from Pakistan is 26% which differ by 34% among males and 24% in females (Ke *et al.*, 2015).

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METHODOLOGY

The present study was conducted to observe the prevalence of hypertension among business class community at Hafeeze Center, Pace Shopping Mall & Zainab Tower Lahore, Pakistan. Both males and females were included in study population. Ethical approval was obtained from participants of study. The data was obtained from participants, based upon structured questionnaire. The questionnaire was developed in English, translated into local language i.e. Urdu. The questionnaire was comprised of demographic data, dietary habits, family history, socioeconomic status and smoking habits.

Blood pressure was measured with help of sphygmomanometer and BMI was calculated of all the study participants. Study population included both males and females having age between 20-45 years. Results were analyzed with the help of SPSS-22.

RESULTS AND DISCUSSION

Results of survey conducted on 400 businessmen & women working in Hafeeze Center, Pace Shopping Mall and Zainab Tower are represented in tables 1-7.

37.5% of surveyed individuals were hypertensive. It was shown in this survey that among all the investigated factors affecting B.P. and leading to hypertension; weight, BMI and stress were most important. As compared to males more of the females were under study stress and some of those who continually remained depressed and anxious had B.P. values falling under hypertension. Out of 400 business class persons, 97 males and females had BMI (a function of weight and height)>24.5 and 31% of these 97 people had B.P. values categorized under hypertension. Those having BMI values in normal range (18.4-24.5) were found to have B.P. values within normal range as well. Family history of hypertension prevailed more among females as compared to males and those who had hypertension running in family had higher B.P. measure-

Table 1: Selected Characteristics of Sample Population (n=400) to check frequency of High Blood Pressure.

Diet Conscious	Red Meat Users	White Meat Users	BMI 18.5-24.5	Less than 18.5	BMI Greater than 24.5	Family History of Hypertension	Socio-Economic Stress	Personality Factors
287	134	253	264	39	97	81	68	35
71.75%	33.5	63.25%	66%	9.75%	24.25%	20.25%	17%	8.75%

Table 2: Prevalence of High B.P. (Hypertension) amongst Red Meat Users.

B.P. in Red Meat Users	Males n=71	Males n=38	Females n=14	Females n=11
No of Individuals	71	38	14	11
Systolic B.P. ± 5 mm Hg	129	148	125	141
Diastolic B.P. ± 5 mm Hg	69	84	73	85

Table 3: Prevalence of High B.P. (Hypertension) amongst Underweight, Normal and Obese Individuals Using BMI Parameter.

B.P. in Individuals having Different BMI ranges	Males having BMI <18.5	Females having BMI <18.5	Males having BMI >24.5	Females having BMI >24.5	Males having BMI 18.5-24.5	Females having BMI 18.5-24.5
No of Individuals	16	3	11	9	20	17	47	13	76	30	98	60
Systolic B.P. ± 5 mm Hg	125	137	131	145	125	147	127	146	122	142	129	143
Diastolic B.P. ± 5 mm Hg	64	79	71	81	80	89	75	86	73	84	74	85

Table 4: Prevalence of High B.P. (Hypertension) amongst Individuals having Family history of Hypertension.

Family history of Hypertension	Males having Family history of Hypertension	Females having Family history of Hypertension	Males not having Family history of Hypertension	Females not having Family history of Hypertension
No of Individuals	54	79	108	159
Systolic B.P. ± 5 mm Hg	142	145	124	142
Diastolic B.P. ± 5 mm Hg	84	84	73	85

Table 5: Prevalence of High B.P. (Hypertension) amongst Individuals having/ not having satisfaction with Current Socioeconomic Status.

Socioeconomic Status	Males satisfied with current Socioeconomic status	Females satisfied with current Socioeconomic status	Males not satisfied with current Socioeconomic status	Females not satisfied with current Socioeconomic status
No of Individuals	69	75	93	163
Systolic B.P. ± 5 mm Hg	132	138	139	142
Diastolic B.P. ± 5 mm Hg	80	76	81	83

Table 6: Prevalence of High B.P. (Hypertension) amongst Smokers.

Information	Males	Females
No of Individuals	33	05
Systolic B.P. ± 5mm Hg	143	147
Diastolic B.P. ± 5 mm Hg	87	77

ments in comparison to those who had no such history. Males and females not satisfied with their socioeconomic status had higher B.P. as compared to those who were satisfied with their socioeconomic status. Smokers also had higher than normal B.P. values. Among those who had red meat as routine part of their diet, most had normal B.P. but 36% of them had B.P. greater than normal. According to a report, one billion people in the world are suffering from hypertension. Hypertension is a major risk factor for myocardial infarction, stroke, heart failure, renal failure and retinopathy. It leads to fatal outcome and needs to be prevented.

CONCLUSION

Being overweight and stressful is strongly associated with hypertension among business class community. While hypertension is a serious predisposing factor to cardiac and vascular diseases, its prevention, diagnosis, management and treatment should be strongly recommended in all the youngsters to avoid future complications which may prove to be fatal. We suggest that awareness of importance of blood pressure for maintaining a good health; and adaptation of a healthy lifestyle to hinder the development of hypertension among suspected individuals should be stressed upon.

CORRESPONDING AUTHOR PROFILE

Muhammad Asim Farooq is a final professional Pharm.D student in Lahore College of Pharmaceutical Sciences, Lahore, Pakistan. He has a keen interest in research topics related to community health issues and is actively involved in various Public Health Awareness Campaigns being conducted through the platform of different NGOs.

REFERENCES

Gupta, A., Brahmbhatt, K., Prasanna, K., Halappanavar, A.B., (2016). Prevalence and correlates of hypertension in the rural community of dakshina kannada, karnataka, india. International Journal of Medical Science and Public Health, 5(2).

Ibrahim, M.M., Damasceno, A., (2012). Hypertension in developing countries. The Lancet, 380(9841), 611-619. [DOI]

Ke, L., Ho, J., Feng, J., Mpofu, E., Dibley, M.J., Li, Y., Feng, X., Van, F., Lau, W., Brock, K.E., (2015). Prevalence, awareness, treatment and control of hypertension in macau: Results from a cross-sectional epidemiological study in Macau, China. American journal of hypertension, 28(2), 159-165. [DOI]

Keshari, P., Shankar, H., (2015). Behavioural risk factors and hypertension among 40 years and above age group in urban Varanasi. The Journal of Community Health Management, 2(1), 17-21.

Ogah, O.S., Rayner, B.L., (2013). Recent advances in hypertension in sub-Saharan Africa. Heart, heartjnl-2012-303227. [DOI]

Premkumar, R., Pothen, J., Rima, J., Arole, S., (2016). Prevalence of hypertension and prehypertension in a community-based primary health care program villages at central India. Indian Heart Journal. [DOI]