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Research Article

**STUDY OF HYPERTENSION IN A POPULATION AND THE
VARIOUS FACTORS INFLUENCING IT**¹Dr. Parsa Khan, ²Dr Khurram Khaliq Bhinder, ¹Dr Tahreem Fatima¹Sir Ganga Ram Hospital²Lahore General Hospital**Abstract:**

Objectives: To assess the prevalence of the disease and awareness of people regarding hypertension and to evaluate the risk factors contributing to the causation of hypertension.

Methods: A cross sectional study was done in September-October 2018. The sample comprised of a total of 100 participants, out of which half were rural-area based and the other half were the urban residents. An interview-based questionnaire was filled to get the data. The data was entered and analyzed by using Microsoft Office Tools.

Results: 100 subjects were included in the study out of which half were from a rural area and the other half were urban residents. The sample constituted 64 females and 36 males. 80 of them belonged to a lower class of family. The prevalence of hypertension in the sample population was 61 out of 100. 53 of these 61 participants took some measures to control their blood pressure and 29 reported to have full control over the disease. In addition, eight individuals despite reporting to be non-hypertensive had raised blood pressure on checking it on spot. Almost 70% of the subjects were aware of the precautions and the resultant consequences in case of no control. Evaluating the risk factors, 71% of the population had the positive family history and also had stressful living conditions providing the greatest contribution to the causation of the disease. Besides 61 had age above 45 years and 46 were smokers.

Conclusion: Most of the population is inflicted by this global epidemic. A greater proportion of both rural and urban population is suffering from hypertension. Health Professionals should bring their attention to this disease at the earliest. Proper programs should be formulated to reduce the exposure to the highlighted risk factors to prevent its causation. The people should be guided for the adequate control of hypertension especially in rural areas. Education of the populations is necessary for awareness of its effects and the precautions.

Keywords: Hypertension, blood pressure, risk-factors, prevention.

Corresponding author:**Dr. Parsa Khan,**

Sir Ganga Ram Hospital

QR code



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INTRODUCTION:

Hypertension is a major cause of morbidity and mortality globally. It gravely affects the vital organs, posing a threat to the healthy survival. Raised blood pressure has greatly increased the risk of cardiovascular diseases which include stroke, coronary artery disease, heart failure, renal and visual impairments. It is an issue to be addressed acutely after detailed analysis of its important factors in the population.

High blood pressure causes overall 7.5 million deaths globally which makes 12.8% of total deaths and leads to 57 million disability adjusted life years(DALYS) which 3.7% of total DALYS worldwide. The total number of affected individuals are hiking up day by day. As a consequence, the families are facing economical, emotional and social set back because of this one disease in the whole world.

Many risk factors are increasing the incidence and progression of hypertension individually and collectively. Its prevalence was reported to be almost 40% in the WHO's survey in 2008. Positive family history, smoking, diabetes, salt consumption, obesity and stressful life are considered to be mainly involved in the causation of this notorious disease. Radical steps are needed to bring down the exposure to these factors.

This study highlights the basic grounds to be worked on at the earliest. Starting from the risk factors and prevalence to the people's awareness regarding the prevention, treatment and consequences in case of negligence have all been analyzed in the randomly

selected sample population. Thus, the information provided is absolutely vital for taking steps to control and avoid hypertension for ensuring good quality of life.

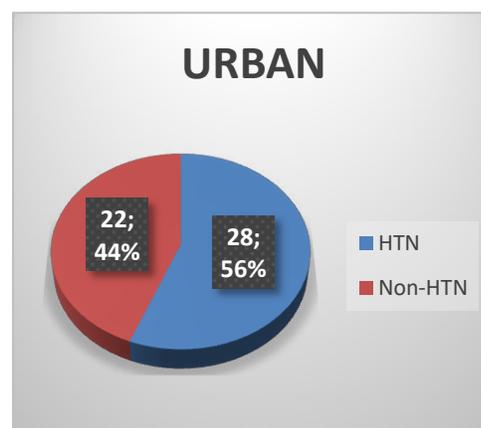
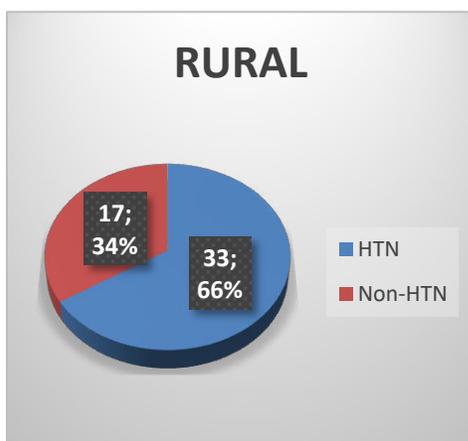
METHODS:

A health-care center based cross sectional study was conducted in Sep-Oct 2018. The sample consisted of a total of 100 participants from two populations i.e. rural and urban. Half of them were based in a rural area while the other half were the residents of urban area. The study population of rural area lived in a village named Namnota in District Poonch, Azad Kashmir and were questioned in a Basic Health Unit. Subjects of urban area were based in Lahore City, Pakistan and they were interviewed in the Tertiary Care Unit which was Combined Military Hospital. The subjects taken for study were above the age of 25 years. An interview-based questionnaire was filled to get the required data. Besides, the blood pressure was checked on spot, of those subjects who denied being hypertensive and was recorded. The data was entered, analyzed, and decoded to conclusive results by using the Microsoft Office Tools.

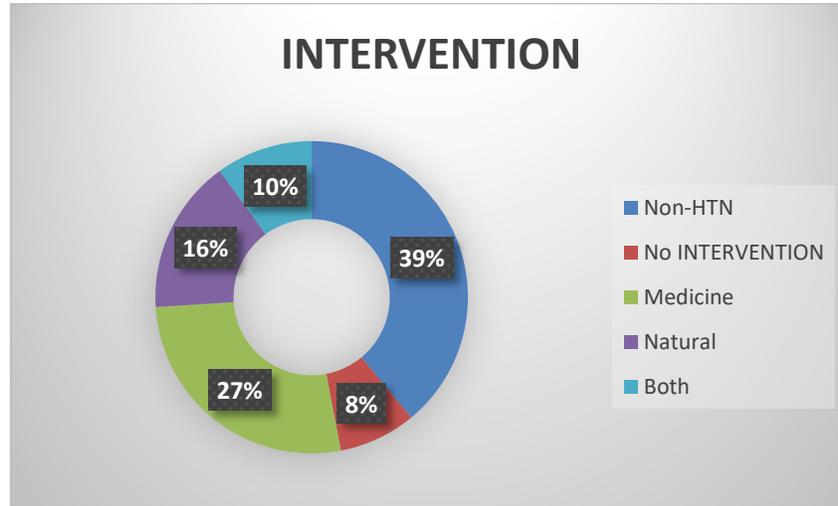
RESULTS:

The results depicted a great percentage of the total sample population to be hypertensive. A total of 100 subjects, 50 from each health center were inquired out of which 64 were female and 36 were male. 80 subjects belonged to a lower class of family having monthly income of less than 50,000.

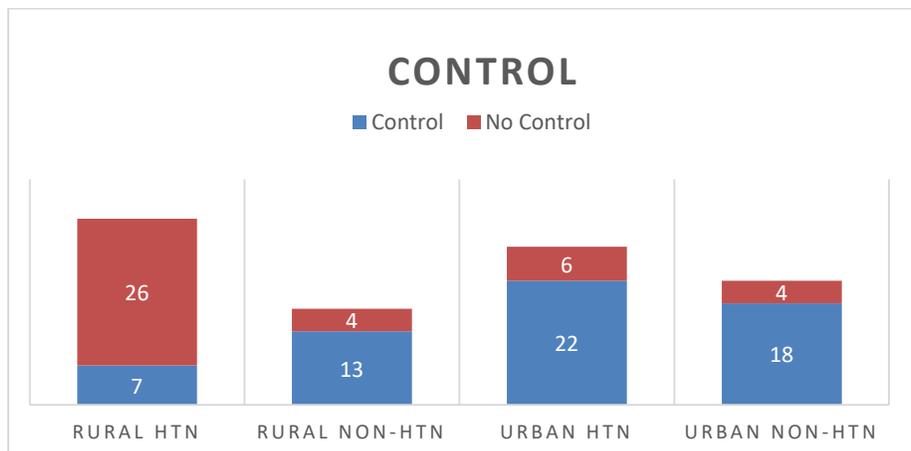
The prevalence of hypertension among the total sample population was 61%. The distribution among the both rural and urban population is given below.



The subjects were asked about the measures they were taking to control high blood pressure. Apart from the 39% individuals who were not hypertensive and thus took no intervention, there were 8% hypertensive subjects who also took no measures at all. 27% of the total sample took medicine to control their blood pressure while 16% relied only on natural remedies. 10% of the population took both medicine and natural substances to keep their BP in control.



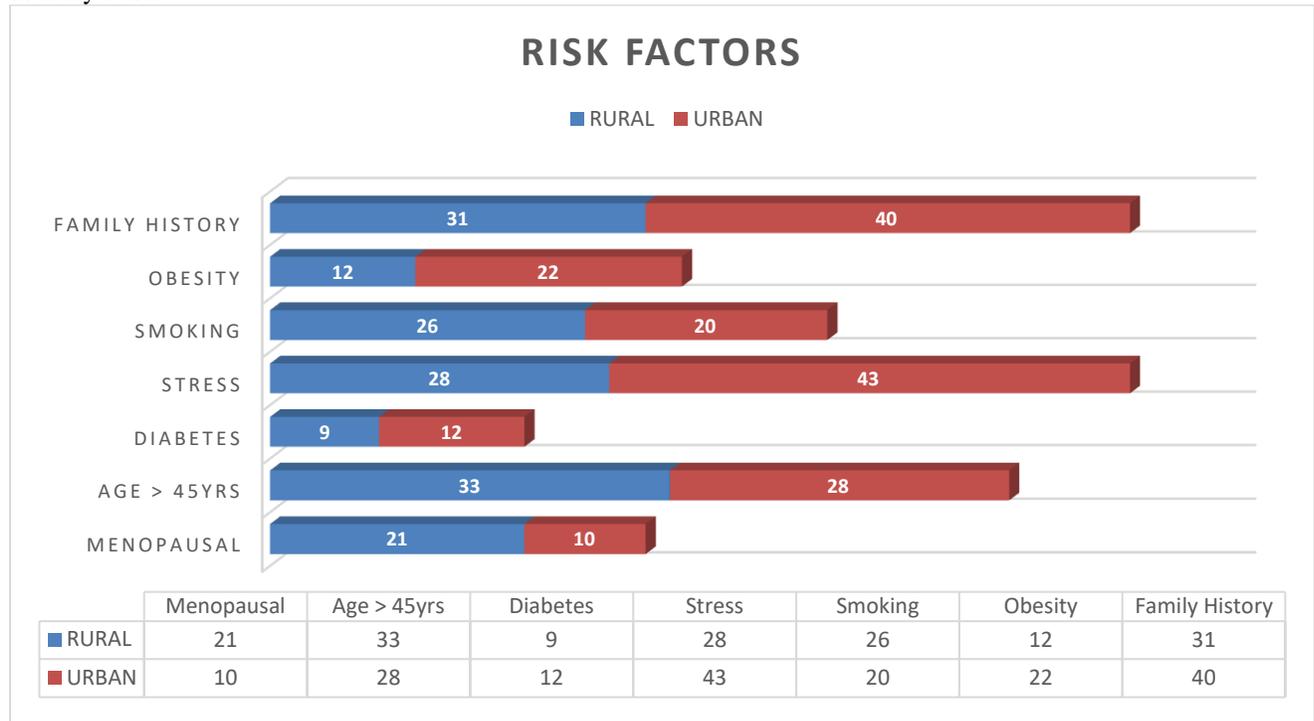
The subjects control for the disease was also assessed in detail. Of the total 61 hypertensive individuals 29 had the control of their BP according to them while 32 had no control. They reported that their blood pressure kept on fluctuating. Sadly, the 8 individuals of the ones who denied having hypertension had no control when their BP was checked on spot and it was recorded as greater than or equal to 140/90mmHg. Analyzing the distribution of these findings of control following depiction was obtained.



The population's awareness regarding the consequences of uncontrolled hypertension and the cognizance regarding the necessary precautions was analyzed. It was recorded that 69 participants were aware of the consequences while 31 were totally unaware. Besides, another huge percentage of 71% was aware of the precautions needed to take for having a controlled blood pressure. These figures were almost equal in both rural and urban population.

The possible risk factors leading to increased prevalence of this disease were probed for the targeted approach to control hypertension. The family history was positive in 71% population in which 61% were hypertensive. 46 were smokers which included both active smokers of cigarette or hukka as well as passive smokers who used wood as fuel for cooking. 34 were obese and 21 were reported to be diabetic. A big percentage of the population i.e. 71% lived in stress which included stressful living and stressful personality (Type A) as well. 61 were above the age of 45 years making age as a prominent risk factor. 31 were menopausal of the total of 64 females in the sample

population. All the important risk factors delineated a close association of them with the emergence of hypertension in today's era.



The results were thoroughly compiled and presented. They extrapolated all the important associations of hypertension and emphasized the vital areas to be targeted systematically.

DISCUSSION:

The study was directed to find out the prevalence of hypertension in a sample population from rural and urban areas. The sample was selected randomly with the only condition of age to be above 25 years at least. This provided us with more female population of 64 as compared to male who were only 36. 61% of the individuals were reported to be hypertensive which is a bigger percentage. This raises a red flag for Health Department to address this disease before every individual suffers from this disease.

The greater proportion of the population who presented in the government health care units had a lower socioeconomic status. 80% of the individuals had their monthly income of less than 50k. This implies that the increasing mortality and morbidity associated with this disease not only affects the individual but cripples the whole family. Regardless of the patient to be male or female, both badly affect the survival of the family.

The control of the disease is absolutely important as it very rarely abates away. The people's behavior towards the disease was scrutinized and they were questioned regarding their approach towards management. Of the total 61 hypertensive

individuals, 53 took remedies to control their blood pressure which highlighted 8 subjects who took no intervention. This provided us with another gap to be filled to prevent the disastrous outcome. People should be consciously warned by the Public Health Professionals with the severe outcomes in case of no treatment. After this aspect we assessed the control of the disease which showed another loop hole on the part of the Health Providers. 29 out of 61 hypertensive subjects reported to have full control which depicts that half of them had no control despite having treatment. As treatment is almost always advised by the health professional, this shows that despite the fact the patient visits the doctor their blood pressure is still not controlled. It is the irresponsible attitude and lack of concern of the doctor that he failed to help the patient control his disease. Doctors should be aware of the essentials of hypertension and he must make full effort to guide the patient as it can save many lives.

On inspecting the population's awareness regarding the disease it was found that 69 were aware of the consequences of the uncontrolled hypertension which left one third of the population to be absolutely ignorant. 71% was also found to be cognizant of the necessary precautions to be taken for prevention and

control of the disease. This included limiting salt consumption, avoiding oily foods, taking fruits and vegetables along with regular exercise for prevention mainly and control as well. Also, taking garlic water, lemon and mint in green tea was reported by the subjects themselves as a great remedy for the control of their high blood pressure. So two third of the population was much aware but one third still needs our attention as if one third of the world population dies due to one single epidemic we won't stay silent! EPI is big example; to eradicate some cases whole world is being immunized so why not formulate a program for the eradication of a more disabling and a more prevalent disease!

Comparing the rural and urban population, it was found that this disease is a really big health issue in both masses. It was also evident that more woman in rural areas suffered from hypertension as compared to the urban lot. We believe that more household work and bigger families in rural areas burdened the females of the rural family. Inquiring further it was found that women in the village lived with their husband's family and the husband himself lived abroad for bread earning. This left women with a greater responsibility of looking after her children alone and also feed her husband's family. Besides the control of disease of the rural subjects was also poor. 26 out of 33 rural hypertensive individuals had no control of their BP while only two of the total urban hypertensive subjects reported uncontrolled hypertension. This makes it important to educate the rural masses and guide them towards the proper treatment. Urban population get quicker access to tertiary health centers so they have a better follow up and awareness for control.

Two main factors contributed up to 71% for the risk of having hypertension. One being the positive family history and other the stressful living environment. There many risk factors in our aura which have altered our genetic makeup in favor of hypertension and various other diseases. This creates a continuous chain of transference of the disease in the next generations. So this provides us the grass root level which needs to be targeted. As prevention is always better than cure so we must generate radical armament to fight the disease before it even occurs. The important risk factors are needed to be identified specially those which are consistently being positive in the affected population. In addition to positive family history and stress, we found 46% smokers, 31% obese and 21 diabetic. All these factors disrupted the vessel wall stimulating the cytokines to heap up plaques, thus narrowing and increasing pressure in the vessels. This undoubtedly contributed

to raised blood pressure. Two factors considered in our study were related to age i.e. subjects above 45 years of age and menopausal. 61% were above 45 years and 31% were post-menopausal. Though these two factors seem inevitable but timely action to prevent ageing effects and to halt the deleterious effects of falling estrogen levels in postmenopausal women are crucial. This can be done by providing essential supplements, dietary modification and daily exercise.

Hence we believe that the disease can be controlled at any level from the scratch to the mountain; implying from the prevention to the control once occurred. So the time is the only this we have cling to and bring about radical solution and plans before it gets totally out of control though its already at the brink.

CONCLUSION:

Hypertension is a global health challenge in today's era. Important health implications need to be enforced for fighting this disease. Without practical interventions, the increasing burden of this disease will worsen its already dreadful picture. All the barriers in the health care system impeding the doctor-patient interaction should be removed. Besides responsible attitude on the part of the doctor, the public health administration should arrange anti-hypertensive campaign time and again. The masses should be educated for living a healthy life style and practicing healthy habits. People should be counselled regarding the dire need of the control of hypertension. They must be aware of its deleterious effects. Innovative, cost-effective and tangible programs should be galvanized for the provision of healthy living. Nothing but the individual can himself change his destination. So empower the society with the armament of knowledge and wisdom. Remember the sinking ship drowns all the passengers!

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CONFLICT OF INTEREST: None.

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