Hypertension is often called “the silent killer” because generally it has no any symptoms until major complications develop. Hypertension is a very frequent and major condition that can lead to many health problems or complicate. The risk of the cardiovascular mortality and morbidity is directly associated with hypertension. The relative risks of stroke, angina, kidney failure, diabetes and many more. The major causes of hypertension include obesity, decrease in physical activities, smoking and alcohol consumption. High blood pressure, possibly related to the age associated with the hearing impairment because of the subsequent vasoconstriction. After arthritis and hypertension, hearing loss is one of the most continual health issues of the older persons. Demographic factors and lifestyles are usually the variable factors due to which prevalence of arterial hypertension differs worldwide. These factors include nutritional habits and physical activities. A large number of antihypertensive and lipid-lowering drugs are being used to treat hypertension but it has been proved that changes in lifestyle are an easy way to treat hypertension.
the range of systolic BP is 110-130 mm Hg. Is the least pressure of diastolic BP (DBP) is 80mmHg during the ventricular diastole and the range of 70-90 mmHg[4]. Family history is also associated with high risk of hypertension and hearing loss disease and it is reported in many studies that the risk is increased by two to seven folds due to family history of hypertension.

**Causes**

Obesity increases the risk of hypertension and heart diseases. Due to increase in BMI, the risk of hypertension also increases. Approximately 2.8 billion people have been reported to die due to obesity. In a study it was seen that a 10% increase in the body weight causes an increase in systolic blood pressure of about 7 mmHg [5]. Decrease in physical activities tend to have more risk of developing hypertension as compared to those who are physically fit [6].

The use of tobacco is one of the major causes of hypertension. The lining of artery walls get damaged due to the chemicals that are present in tobacco. The arteries get narrow and increase the blood pressure [7]. Black have more risk of having hypertension as compared to the white. The prevalence of hypertension is about 13% in whites and about 23% in blacks [8]. The use of alcohol is also one of the risk factors for hypertension. Recent studies showed association of consumption of alcohol with hypertension and it may be a cause of essential hypertension [9].

**Signs and Symptoms**

High blood pressure, possibly related to the age associated with the hearing impairment because of the subsequent Vasoconstriction. Vasoconstriction of the inner ear blood vessels unfavorable effects on blood and supply oxygen in the inner part of the ear because the inner part of ear depend on oxidative metabolism, in the inner part of the ear the removal of oxygen is via to produce insufficiency in auditory sensitivity [10]. At least 28 million U.S. populations were hearing impairment. After arthritis and hypertension, hearing loss is one of the most continual health issues of the older persons. The effect of hearing loss on society will be increasing as baby boomers age because the age-specific prevalence of hearing loss and the number are increasing in older persons [11]. It was reported that there had a twofold accelerates in the speed at which men lost their hearing as compared to the women. It showed that gender and age are indeed related to the hearing impairment even in the groups without sign of hearing loss. It reported that males had a very significant age related drop in their hearing loss, while women did not show such patterns [12]. With aging, there are a higher number of chronic diseases. High blood pressure and hearing loss have very important prevalence in elderly populations. Since the study has shown that the arterial hypertension is an independent risk factor for the hearing loss [13].

**Characteristics**

Angiotensin-converting enzyme (ACE) gene is one of the entrant genes involved in rennin angiotensin-aldosterone system (RAAS). This system also involved to maintain the balance of fluid and electrolysis. The ACE enzyme involved the conversion of inactive angiotensin I into active angiotensin II. They also reduced bradykinin to sustain homeostasis of blood pressure [14]. Angiotensin I-converting enzyme (ACE) plays a vital role in the regulation of blood pressure and they consist of zinc metalloproteinase. Two types of homologous catalytic domains are present in the ACE. C-domains and N-domains, both are consisting of active catalytic sites. Which are suitable to cut bradykinin, and angiotensin I. The C-domain as compared to the N-domain of ACE is most efficient in cutting angiotensin I into vasopressor angiotensin II [15]. ACE is present as a membrane-bound enzyme in the different types of epithelial and endothelial cells, neuroepithelial cells and biological fluids in the form of circulating, such as amniotic, plasma and seminal fluids [16]. There are two isoforms of angiotensin converting enzyme. One of them is called somatic ACE because of its presence in the somatic tissue sit consist of very large proteins that is composed of 1300 amino acids. Its molecular weight is 100-110KDa ACE gene of human is present on 17q23 chromosomes and it is about 21kb in size. Many different types of polymorphisms have been identified. There are about 160 polymorphisms whereas others are a result of a missense mutation. The most extensively studied of insertion/deletion polymorphism is present on the intron 25 and 26 exons. ACE II is a potent vasoconstrictor. It releases aldosterone by acting on the adrenal cortex and aldosterone in turn allows the kidney tubules to reabsorb more water and salts from urine [17]. The growth and proliferation of the cell are also stimulated by angiotensinll by the help of different growth factors and cytokines [18]. The regulation of an angiotensin I-converting enzyme into angiotensin II then the cause the activation of the rennin-angiotensin system which regulates the blood pressure. ACE has been associated with the cell proliferation, inflammation and angiogenesis. The most important system involved in the regulation of systemic blood pressure, glomerular filtration rate and renal blood flow is called the rennin-angiotensin-aldosterone system. The renin-angiotensin system (RAS) or the rennin-angiotensin-aldosterone system (RAAS) is hormone system which helps in the regulation of fluid balance and blood pressure. The angiotensin-converting

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enzyme can cut other proteins, including bradykinin. Bradykinin causes blood vessels to dilate which cause blood pressure decreases. Inactivates bradykinin, cutting by the angiotensin-converting enzyme, which help with blood pressure increase [2]. The Figure 1 showed the renin angiotensin aldosterone system.

Classification
Basically, hypertension has two types, primary hypertension or secondary hypertension. Both types of hypertension account for about 90% of all hypertension cases. Primary hypertension is hypertension, which the cause is unknown this is also called essential hypertension. This is the most common type of hypertension [2]. Secondary hypertension is caused by another disease. It is due to hyperaldosteronism unrestricted levels of aldosterone hormone, which are causes kidneys to maintain higher amounts than normal amount of water and salts, which increases your blood pressure and increases your blood volume [23]. It is also known as renal hypertension. In this type of hypertension, once the root cause is treated, blood pressure usually returns to normal or is significantly lowered. Diseases that may be a cause for high blood pressure, alcohol addiction, thyroid dysfunction, sleep apnea, may be chronic kidney disease, and others [2]. Prehypertension is not considered as a disease, but it indicates that individuals suffering. Since it may have a risk of developing stage 3 and stage 4 hypertension [24]. There are four different types of stages of high blood pressure or hypertension [25]. If your systolic blood pressure is between 140 and 159 or your diastolic pressure is between 90 and 99, you are considered to be in hypertension stage 1. If systolic blood pressure between 140/90 or diastolic blood pressure is between 159/99 are considered as stage 2 or mild hypertension. If systolic blood pressure between 160/100 or diastolic blood pressure is between 179/109 are considered as stage 3 or moderate hypertension. Stage 4 or severe hypertension is 180/110 or higher (Table 1).

Table 1: Classification of blood pressure [26]

<table>
<thead>
<tr>
<th>Classification</th>
<th>Systolic BP (mmHg)</th>
<th>Diastolic BP (mmHg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1 Normal</td>
<td>&lt;120</td>
<td>&lt;80</td>
</tr>
<tr>
<td>Stage 2 Prehypertension</td>
<td>120-139</td>
<td>80-89</td>
</tr>
<tr>
<td>Stage 3</td>
<td>140-159</td>
<td>90-99</td>
</tr>
<tr>
<td>Stage 4</td>
<td>&gt;160</td>
<td>&gt;110</td>
</tr>
</tbody>
</table>

Statistics
Demographic factors and lifestyles are usually the variable factors due to which prevalence of arterial hypertension differs worldwide. These factors include nutritional habits and physical activities. According to estimation this fluctuation is also due to geographic regions locations. In developing countries like Australia and US where literacy rate is quite high, hypertension increases from 62% to 72% [27]. In South Asian region, studies have found that most (53%, 71%, and 57%) of individuals taking medications for hypertension have uncontrolled BP in Bangladesh 53%, Pakistan 71%, and Sri Lanka 57%. The rate of hypertension is expected to rise in these developing countries due to
sociodemographic changes and low literacy rate and availability of healthcare facilities. This indicates the necessity for instant health care actions for targeting known hurdles and for enhancing approach to required hypertension care service, particularly in low socioeconomic status communities living in South Asia [28]. In South Asia, situation is quite alarming as developed country like China is estimated to have only 8% and India having 6% control rates in administrating hypertension. Currently, 1 billion people worldwide are estimated to have hypertension (>140/90 mmHg), it is predicted that this number will increase to 1.56 billion by 2025[29]. In Pakistan same situation can be seen as National Health Survey calculated that hypertension affects 18% of adults and 33% of adults above 45 years old. Similar report shows that in Pakistan approximately 18% of people have hypertension and one out of three people (over the age of 40) are at high risk of wide range of diseases[29].

**Treatment**

Different studies have provided the magnitude of treatment of hypertension. Current studies have indicated that prescription in a population has changed due to changes in the pattern of anti-hypertensive drugs. For example, in USA, immediate aggravation in the ratio of anti-hypertensive prescription for angio-tensin converting enzyme-inhibitors and blockers of calcium channel and in the same way decrease ratio of prescription for diuretics [30]. At this moment studies are going on for antihypertensive and lipid-lowering treatment for preventing heart attack. But the surveillance system has given finite data for treating hypertension by changing lifestyle to some extent. Changes in lifestyle seem an easy way to treat hypertension and it attracts health care providers and patients both. However it is very hard to maintain the aims of this therapy [31]. For accomplishing these goals food should be consumed by hypersensitive patients that have low calories and salt content. Public education campaigns should be started for promoting healthy lifestyle, for example, good nutrition, modification in alcohol intake and physical activity should be increased. Health care providers should motivate patients and at the same time ensure that alternating lifestyle modification interventions instead of pharmacological therapy should not decrease level of hypertension control in population [31].

**Prevention**

To eradicate all hypertension related diseases in the population, preventive measures must be taken along with the treatment. Measures for primary prevention are similar and in use for non-pharmacological treatment of hypertension. Similarly, measures like reduction of risk accompany and boost each other. Many people in community are attracted to and pursue primary prevention measures because at least some change in blood pressure will yield fundamental health benefits.

**Future perspectives**

Genetic diversity plays a crucial role in response generation against antihypertensive medications. Genome-wide associations studies (GWAS) have increased our awareness in identify genes associated with the development of hypertension and expecting responses against antihypertensive agents. Genomic studies can provide more knowledge in the risk assessment and progression of diseases associated with hypertension.

**CONCLUSIONS**

Therefore lowering of blood pressure by 2 mm Hg generally in community can have vast outcome of annual decrease in stroke, coronary heart disease and all-causes of mortality of about 6%, 4% and 3% respectively [32]. In the same way, if a hypertension patient has a 2-3 mmHg average reduction in their high normal blood pressure, then it will result in a 25-50% reduction in the occurrence of hypertension. [33] This accessible prospective for the well-being gives primary prevention of hypertension its significance and make it an important target for the community.

**Conflicts of Interest**

The authors declare no conflict of interest.

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