Although high blood pressure, or hypertension, is one of the most serious and common diseases of modern times, it does not receive significant attention at individual, societal and government levels. High blood pressure is serious because it has no symptoms. A person might have high blood pressure for years without suffering any health problems. However, if left untreated or controlled, it can lead to grave consequences such as heart attack, stroke and kidney failure. Given its importance, WHO is highlighting high blood pressure for this year’s World Health Day in an effort to draw attention to its dangers.

What is high blood pressure?

Understanding blood pressure requires an understanding of the blood cycle. The cycle starts with a contraction of the heart muscle, which pumps its load of oxygen- and nutrient-rich blood to all cells of the body. With each contraction the blood moves from the heart into the aorta, which is the largest artery in the human body. The aorta carries the blood and distributes it to all other arteries of the body. The heart muscle then relaxes to allow new blood into the heart and the cycle begins again.

The force with which the heart pumps blood into the arteries and vessels is called blood pressure. Generally, the level of blood pressure is measured by the quantity of blood pumped by the heart and the resistance the blood flow receives in arteries and veins.

How do we measure blood pressure?

Normal blood pressure in adults is measured by millimetres of mercury (mmHg) and is recorded in two numbers. The first is the systolic blood pressure (the highest pressure in blood vessels), which is the pressure when the heart contracts. It ideally ranges between 115 and 120 mmHg. The second is the diastolic blood pressure (the lowest pressure in blood vessels), which is the pressure while the heart relaxes and dilates. It ideally ranges between 75 and 80 mmHg. Blood pressure is considered high if the systolic measurement is 140 mmHg or more and/or the diastolic measurement is 90 mmHg or more.

Why is high blood pressure dangerous?

It is important to keep your blood pressure within normal limits so that your body’s key organs, e.g. heart, brain and kidney, can work efficiently to maintain your health. Continued high blood pressure can exhaust and damage the heart muscle, which then has to make greater effort to pump blood into the rest of the body. This can affect its efficiency over the long term. Blood pressure that is higher than normal limits also weakens blood vessels, which can lead to stroke,

heart attack, infertility, kidney failure, blindness and internal bleeding.

How prevalent is high blood pressure?

One out of every three adults worldwide has high blood pressure. The older people become, the higher the prevalence rises. It starts at one in every ten persons aged in their 20s and 30s, and reaches five out of every ten persons in their 50s. Worldwide, the number of people with high blood pressure grew from 600 million in 1980 to a billion persons in 2008.

Heart disease and stroke are the leading causes of death in most countries; one third of annual deaths worldwide (17.3 million persons) are attributed to cardiovascular diseases. The consequences of high blood pressure account for 8.4 million deaths every year, and high blood pressure is a direct cause of 13% of global deaths. It is also the leading cause of 45% of cardiovascular deaths and 51% of stroke deaths and hence is a global public health threat.

The highest prevalence of hypertension is seen in some low-income African countries, where it is estimated that 40% of adults have high blood pressure.

In the WHO Eastern Mediterranean Region, indicators show that two out of every five people, or more than a quarter of the adult population, have high blood pressure. Incidence rates range between 27.5% (United Arab Emirates) and 42.6% (Libya) and are almost equal between men and women.

Why do we get high blood pressure?

High blood pressure is a noncommunicable disease, with no specific causes. It can strike anyone. However, there are factors that increase the probability of incidence, or the risks if the person is already hypertensive. Some of these factors are related to ageing and others to people’s lifestyle and behaviour. They include the following.

- Unhealthy nutritional habits, which are the leading cause of hypertension, e.g. high intake of salt, fatty foods or alcohol or low intake of vegetables and fruits.
- Low physical activity and lack of exercise. Some people lead sedentary lifestyles and do not exert physical activity or practice sports, thereby increasing their risk of becoming hypertensive.
- Obesity and overweight. The higher a person’s body mass index, the higher the risk for

high blood pressure.

- Smoking and tobacco use. The chemical contents of tobacco also cause arterial stenosis, leading to hypertension.
- Constant fatigue, psychological stress, diabetes, raised blood cholesterol and high fat or alcohol intake, which are all factors that increase the risks of high blood pressure.
- Age. Risks increase with age. Women are more likely to have high blood pressure upon reaching menopause, and pregnant women can experience temporary high blood pressure, which returns to normal after delivery. People can also be hypertensive for genetic reasons.

How can we detect high blood pressure?

There is a common misconception that people with high blood pressure always have symptoms. The fact is that they rarely have symptoms. This is why hypertension is described as the ‘silent killer’. Many people are unaware of their condition and remain undiagnosed, only to discover it too late, after dangerous consequences such as heart attack take place. When symptoms do occur, the most common are headache, shortness of breath, dizziness, chest pain, heart palpitations or nose bleeds.

The best way to detect high blood pressure is to measure it, either at adoctor’s office or at home with a digital blood pressure meter. The normal blood pressure range is between 115/75 and 120/80 mmHg.

There are three levels of high blood pressure.

Prehypertension

The systolic blood pressure ranges between 120 and 139 mmHg or the diastolic blood pressure is between 80 and 89 mmHg.

First stage

The systolic blood pressure ranges between 140 and 159 mmHg or the diastolic blood pressure

is between 90 and 99 mmHg.

Second stage

The systolic blood pressure is 160 mmHg or higher, or the diastolic blood pressure is 100 mmHg or higher.

How do people control their high blood pressure?

People must play a more effective role in maintaining their health. Knowledge of blood pressure level helps people to monitor their health. The earlier hypertension is detected, the less risk there is of possible consequences such as heart attack, stroke, kidney failure or blindness.

If an individual detects high blood pressure, s/he should:

- Immediately see a doctor, follow the doctor’s instructions and adhere to prescribed medications;
- Monitor levels of blood sugar and cholesterol and urine albumin in order to ensure the kidneys are healthy and evaluate risks to the heart and blood vessels;
- Change dietary habits by reducing daily salt intake to less than 5 grams, eating fruits and vegetables on a daily basis and reducing intake of saturated and trans fatty acids;
- Lose weight, if overweight: every 5 kilograms lost reduces systolic blood pressure by 2–10 mmHg;
- Avoid tobacco and alcohol use and manage tension and stress through healthy relaxation methods;
- Monitor blood pressure regularly through blood pressure meters, which are available at affordable prices.

Self-care, quitting unhealthy habits, consulting a doctor and adhering to medications are all very important. Self-care is even more important for people who have limited access to health services.

Reduction of salt to prevent high blood pressure

The daily amount of salt consumed by people is a major contributor to hypertension. Daily salt intake in most countries ranges between 9 and 12 grams. However, WHO recommends that daily salt intake should not exceed 5 grams.

Scientific and medical studies have showed that reducing daily salt consumption is one of the most effective means of lowering blood pressure, and therefore reducing the risk of heart disease and stroke.

Food producers can play an effective role in maintaining people’s health if they gradually and steadily reduce the salt added to processed food. In addition, media campaigns are needed to encourage everyone to reduce the amount of salt in their food.

Several countries have implemented successful programmes to reduce food salt and raise public awareness about salt-related dangers to health. In the early 1970s, Finland, in collaboration with the media, implemented a systematic plan to encourage people to reduce their salt intake. The plan included public media campaigns and collaboration with food producers. The resulting decrease in salt intake has reduced systolic and diastolic blood pressure by 10 mmHg as well as deaths from heart disease and stroke in Finland since that period.

The United Kingdom, United States of America and other high-income countries have also implemented successful salt reduction initiatives, in collaboration with food producers. Recently, several developing countries have launched national initiates to reduce salt intake. Salt reduction among a population requires concerted efforts at all levels and contributions from the government, food producers, nongovernmental organizations, health care experts and the public at large.

Organizations responsible for fighting high blood pressure

Governments, health care professionals, the private sector, families and individuals have a crucial role in the prevention and treatment of high blood pressure, and therefore in preventing its dangerous consequences.

Role of civil society

The whole of society, including nongovernmental organizations, academia, professional associations and the private sector, has a key role in combating noncommunicable diseases in general and hypertension in particular by addressing the major common risk factors such as tobacco use, unhealthy diet, low physical activity and harmful use of alcohol. Partnerships between nongovernmental organizations and academia offer opportunities for the exchange of expertise and resources required for building capacities and developing the skills of individuals, families and communities.

Economic and social costs of hypertension and the role of government

Hypertension, heart attacks, cardiac arrests, strokes and kidney failure are a huge burden on the health care budget in all countries. Expenditure on cardiovascular diseases ranges between 8% and 22% of total health expenditure in most countries.

The consequences of high blood pressure result in serious social costs including depletion of family resources on treatment, early death and disability and loss of the family’s breadwinner. Dealing with these consequences also puts a huge economic burden on the budgets of governments and states.

Some countries have managed to control the prevalence of hypertension through targeted prevention strategies. Controlling high blood pressure and related risk factors is possible and affordable. It also results in huge savings for the country over the long term.

Several countries have also managed, thanks to early detection programmes for high blood pressure, to gradually reduce deaths from cardiac disease and stroke over the past three decades.

A package of interventions and policies should be adopted by governments to reduce the prevalence of high blood pressure and mitigate its consequences:

- Evaluating cardiovascular health and measuring blood pressure during a patient’s first contact with primary health care providers;
- Integrating treatment for high blood pressure within primary health care as an integral part of the national strategy for noncommunicable disease prevention and control;
- Developing integrated policies to reduce people’s exposure to behavioural risk factors, .e.g. unhealthy diet and lack of exercise, and establishing a population-based strategy for salt

reduction;

- Ensuring the availability of technology and essential medicines for the treatment of patients and the necessary coordination and integration between different levels of the health system for appropriate treatment;
- Ensuring universal access to the necessary services to prevent high blood pressure and its consequences.

Role of doctors and health care providers

Most hypertension cases can be treated at primary health care level. Doctors and other trained health care officials play a vital role in the detection and treatment of high blood pressure. WHO has developed guidelines and several tools to assist health care providers in offering affordable treatment of high blood pressure at the primary care level.

World Health Day campaign objectives

The World Health Day 2013 campaign, which is held under the theme: “Control your pressure, control your life”, aims at the following:

- Reducing rates of heart attack and stroke
- Promoting awareness and healthy behaviour, improving detection methods and developing protective settings
- Raising awareness about the causes, consequences and prevention of hypertension
- Encouraging adults to check their blood pressure regularly and follow the advice of doctors and health care providers
- Promoting self-care to prevent hypertension and control its effects
- Providing universal access to blood pressure measurement devices
- Urging national and local authorities to develop settings that facilitate healthy behaviour.

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