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# Precision Wellness Solutions: Revolutionizing Hypertension Management in Obesity

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**Abstract:** Hypertension, or high blood pressure, is a major cause of mortality among individuals who are obese in developed nations. This medical condition is often referred to as a silent killer, as it can affect millions of people worldwide and elevate the death rate. Hypertension can lead to severe health complications without obvious symptoms and is linked to low levels of physical activity and excessive caloric intake. If left unaddressed, it can cause serious health issues such as cardiovascular diseases and stroke.
**Key words:** hypertension ,obesity, cardiovascular diseases, excessive caloric intake.

## Introduction

Obesity, which is a global problem, continues to increase day by day and is the root cause of many diseases such as hypertension and diabetes mellitus. According to WHO statistics, more than 1 billion people worldwide suffer from obesity. Approximately 13% of the world's adult population (11% of men and 15% of women) were obese in 2020. In addition, 21.8% of adult women and 16.1% of adult men are living with obesity. Uzbekistan has a higher obesity prevalence than the regional average of 10.3% for women and 7.5% for men. At the same time, diabetes is estimated to affect 13.2% of adult women and 12.8% of adult men. Obesity can shorten life and contribute to chronic conditions such as diabetes and cardiovascular disease, as well as interfere with sexual function, self esteem, mood and social interactions.

obesity is the key to every disease and patient with increase body mass index can be opportunistic to every disease The classification of body mass is calculated by the body mass index BMI the formula is

$$\text{BMI: } \frac{\text{Weight (kg)}}{\text{Height m2}}$$

| Classification | BMI | BMI Prime |
|---|---|---|
| Underweight | Below 18.5 | 0.7 or less |
| Normal | 18.5-25 | 0.74-1 |
| Over weight | 25-30 | 1-1.2 |
| Overweight class I | 30-35 | 1.2-1.4 |
| Overweight class II | 35-40 | 1.4-1.6 |
| Overweight class III | Above 40 | Above1.6 |

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Hypertension is a health condition that is caused by many factors. It is classified into two types: primary hypertension, which has no underlying cause, and secondary hypertension, which has an underlying cause. Hypertension is characterized by an increase in systolic and diastolic pressure, with levels exceeding 140/80mmHg. Obesity-related hypertension has a complex mechanism. The metabolic pathway of the body has a relationship with the renal system and neuroendocrine system. As the body's adipose tissue increases, it triggers the autonomic system to activate the sympathetic system. This process increases the hormone renin in the kidney, which stimulates the RAAS system, resulting in an increase in blood pressure that affects the kidney and skeletal muscle, and increases the heart rate. Obesity-related hypertension is greatly influenced by the sympathetic nervous system, causing insulin resistance and baroreceptor dysfunction. The organ damage caused by hypertension is in the heart, brain, kidney, and blood vessels.

**The purpose of study**

The purpose of this study is to reduce hypertension in patients by decreasing their body mass index and minimizing complications.

**Material and methods of the study**

This involve measuring blood pressure, which requires the patient to be seated quietly for at least 5 minutes in a chair with feet on the floor and arms supported at heart level. The blood pressure should be measured using a sphygmomanometer with an appropriate-sized cuff, encircling at least 80% of the patient's arm to ensure accuracy. The BMI is the ratio of body weight (in kilograms) to height (in meters) squared and can help in decreasing obesity-related hypertension.

**Goals of decrease obesity related hypertension**

Lifestyle modification, pharmacological treatment, follow-up, and monitoring of calorie intake reduction, and increased physical activity can help to reduce hypertension. It decrease the mortality rate .In obese person it is necessary to modify his life style as hypertension can affect other organ of the body and can give fatal outcome . Regular checking of blood pressure and regular life modification can help reduce blood pressure

| **Modification** | Approximate SBP Reduction |
|---|---|
| Weight reduction | 5-20 mmHg/ 10 kg weight loss |
| Adopt DASH eating plan | 8-14 mmHg |
| Dietary sodium reduction | 2-8 mmHg |
| Physical activity | 4-9 mmHg |
| Moderation of alcohol | 2-4 mmHg |
| | |

**Table no 2** ; life style modification helping to reduce blood pressure

The table no 2 shows how blood pressure decreases with lifestyle modification, but pharmacological treatment is also necessary. Lifestyle modification gives results after several months that can lead to organ damage. Therefore, it is crucial to modify your lifestyle with pharmacological treatment to achieve better results.

**Result**

Data from studies show a nearly linear relationship between BMI and blood pressure. Findings indicate that 78% of essential (primary) hypertension in men and 65% in women can be attributed to obesity. According to research, by 2025 an estimated 1.56 billion people worldwide will suffer from high blood pressure, a 60% rise from the numbers in 2000. This is due to the increasing use of processed food industries and bad diet habits that are increasing in people. It predicts a cardiovascular disease epidemic since high blood pressure affects the heart and several blood vessels leading to serious end-organ damage like kidney disease and eye damage.

**Discussion**

Lifestyle interventions, including exercise, physical activity, and dietary modification, are effective strategies in reducing body weight and blood pressure. While they should always be an integral part of the weight loss strategy, they are subject to recidivism. This significantly reduces the beneficial effects of weight loss on blood pressure over time, and much of it is related to weight regain. Weight loss maintenance requires high levels of physical activity and continued dietary modification.

**Reference:**

1. Kristina Samvelovna Pulatova, Shokhruh Shavkatovich Inoyatov, Davlatshoh Usmonovich Numonov REDUCED SEXUAL DYSFUNCTION IN YOUNG ADULTS WITH OVERWEIGHT AND ARTERIAL HYPERTENSION // CARJIS. 2022. №1.

URL:https://cyberleninka.ru/article/n/reduced-sexual-dysfunction-in-young-adults-with-overweight-andarterial-hypertension.

2. Kristina Samvelovna Pulatova, Timur Mukhitdinovich Pulatov, Mukhammad Olimovich Esankulov THE SPECIFIC FEATURES OF ARTERIAL HYPERTENSION IN OWERWEIGHT PATIENTS WITH PSORIASIS // Academic research in educational sciences. 2021. №2. URL: https://cyberleninka.ru/article/n/the-specific-features-of-arterial-hypertension-in-owerweightpatients-with-psoriasis.

3. Samadova Nigina Alisherovna, Madjidova Gulbahor Talipovna, Xursandov G'iyosiddin Zaynitdinovich, & Yorbulov Laziz Salim O'g'li. (2022). Course of Myocardial Infarction in Young Women. Eurasian Medical Research Periodical, 7, 106–111. Retrieved from https://www.geniusjournals.org/index.php/emrp/article/view/1072

4. Rubenovna, A. I., Samvelovna, P. K., Mamasolievna, J. N., & Shodiyor Shokiro'g'li, D. (2021). Features of Anti-Hipertension Therapy in Overweight Pations. Annals of the Romanian Society for Cell Biology, 278-283.

5. Negmatovna T. E., Alievna A. G. Features of ischemic heart disease in association with Climacteric cardiopathy //European science review. – 2018. – №. 3-4. – С. 190-192.