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ТИББИЁТДА ЯНГИ КУН НОВЫЙ ДЕНЬ В МЕДИЦИНЕ NEW DAY IN MEDICINE

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PREVALENCE OF TOBACCO SMOKING AND ALCOHOL DEPENDENCE AMONG PATIENTS WITH ARTERIAL HYPERTENSION

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✓ Resume

Arterial hypertension remains one of the most widespread and socially significant conditions within the spectrum of cardiovascular diseases. Its essential form is particularly relevant, as it tends to progress gradually due to a combination of modifiable and non-modifiable risk factors. It is also important to note that hypertension often serves as a predictor of more severe cardiovascular complications, including ischemic heart disease, stroke, and chronic heart failure. Despite the multifactorial nature of the disease, this article focuses on the prevalence of two major risk factors — smoking and alcohol consumption — and their role in the development of arterial hypertension.

Keywords: arterial hypertension, essential hypertension, risk factors, smoking, alcohol consumption, cardiovascular diseases

РАСПРОСТРАНЕННОСТЬ ТАБАКОКУРИВАНИЯ И АЛКОГОЛЬНОЙ ЗАВИСИМОСТИ СРЕДИ БОЛЬНЫХ АРТЕРИАЛЬНОЙ ГИПЕРТЕНЗИЕЙ

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✓ Резюме

Артериальная гипертензия остается одним из наиболее распространенных и социально значимых состояний в спектре сердечно-сосудистых заболеваний. Ее эссенциальная форма особенно актуальна, так как имеет тенденцию к постепенному прогрессированию из-за сочетания модифицируемых и немодифицируемых факторов риска. Важно также отметить, что гипертензия часто служит предиктором более тяжелых сердечно-сосудистых осложнений, включая ишемическую болезнь сердца, инсульт и хроническую сердечную недостаточность.

Несмотря на многофакторность заболевания, в данной статье основное внимание уделено распространенности двух основных факторов риска — курения и употребления алкоголя — и их роли в развитии артериальной гипертонии.

Ключевые слова: артериальная гипертензия, эссенциальная гипертензия, факторы риска, курение, употребление алкоголя, сердечно-сосудистые заболевания.

ARTERIAL GIPERTANSIYON BASORLAR O'RTASIDA TAKINI CHEKISH VA ALKOROTGA QARAMLIKNING TARQALISHI.

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✓ Rezyume

Arterial gipertenziya yurak-qon tomir kasalliklari spektrida eng keng tarqalgan va ijtimoiy ahamiyatga ega sharoitlardan biri bo'lib qolmoqda. Uning asosiy shakli ayniqsa dolzarbdir, chunki u o'zgartiriladigan va o'zgartirilmaydigan xavf omillarining kombinatsiyasi tufayli asta-sekin o'sib boradi. Shuni ham ta'kidlash kerakki, gipertenziya ko'pincha yurak-qon tomir tizimining ishemik kasalligi, insult va surunkali yurak etishmovchiligini o'z ichiga olgan og'irroq yurak-qon tomir asoratlarini bashorat qiluvchi omil bo'lib xizmat qiladi. Kasallikning multifaktorial xususiyatiga qaramasdan, ushbu maqola ikkita asosiy xavf omilining tarqalishi - chekish va spirtli ichimliklarni iste'mol qilish va ularning arterial gipertenziya rivojlanishidagi roliga qaratilgan.

Kalit so'zlar: arterial gipertenziya, muhim gipertenziya, xavf omillari, chekish, spirtli ichimliklarni iste'mol qilish, yurak-qon tomir kasalliklari.

Relevance

Arterial hypertension (AH) is one of the most common chronic non-communicable diseases worldwide and poses a serious threat to public health. According to the World Health Organization (WHO), more than 1.28 billion people suffer from hypertension, and around 700 million of them do not receive adequate treatment [1]. This condition is a major risk factor for severe cardiovascular complications such as stroke, myocardial infarction, heart failure, and chronic kidney disease [2,3].

Arterial hypertension is divided into two main types: primary (essential) hypertension, which accounts for about 90–95% of all cases, and secondary hypertension, which is caused by other diseases or pathological conditions. Primary hypertension develops gradually over many years and is most often associated with factors such as genetic predisposition, age, obesity, sedentary lifestyle, high salt intake, chronic stress, and harmful habits — in particular, smoking and excessive alcohol consumption [4,5].

Smoking and alcohol are two leading modifiable risk factors that affect the development and progression of hypertension. Nicotine causes vasospasm, increases catecholamine levels, activates the sympathetic nervous system, and increases arterial stiffness, all of which lead to a persistent rise in blood pressure [6]. Alcohol, especially with regular and excessive consumption, can trigger both acute and chronic episodes of hypertension. Meta-analysis results show a direct correlation between the amount of alcohol consumed and blood pressure levels [7,8].

Although the effects of smoking and alcohol on blood pressure have been known for a long time, the issue remains highly relevant. According to recent data, about 22% of the global adult population smokes, and alcohol consumption per capita exceeds 6.2 liters per year [2]. In low- and middle-income countries, including Uzbekistan, the burden of these risk factors is particularly pronounced due to low public awareness, a lack of sustainable prevention programs, and limited access to healthcare services.

In Uzbekistan, the situation is of serious concern. According to the State Committee on Statistics of the Republic of Uzbekistan, as of January 1, 2023, more than 1.18 million cases of circulatory system diseases were registered, and 26.5% of all deaths in the country were associated with hypertension [9]. According to estimates from the Ministry of Health, approximately 12% of adults regularly consume alcohol, and tobacco use is prevalent among more than 15% of the adult population [10]. These figures highlight the need for focused attention on prevention and early identification of risk factors.

Recent scientific studies confirm the need for a comprehensive approach to managing hypertension, which includes not only pharmacological therapy but also active work with behavioral risk factors. This is especially important for patients whose hypertension is associated with harmful habits. Lifestyle optimization, smoking cessation, reduction of alcohol consumption, and proper nutrition should become an integral part of the strategy to combat arterial hypertension at all levels — from individual to national.

Thus, studying the prevalence and patterns of alcohol and tobacco use among individuals with arterial hypertension has significant clinical and social relevance. The findings will help develop more precise recommendations for risk factor modification aimed at reducing the incidence and mortality associated with cardiovascular diseases.

The purpose of the study is to assess the clinical-laboratory severity levels of the disease in the types of intestinal irritation syndrome accompanied by diarrhea and constipation predominance.

Materials and methods

The study was conducted using data from 112 patients who sought medical care at the clinic of

Bukhara State Medical Institute named after Abu Ali ibn Sino during the period from November 2024 to March 2025. All study participants were diagnosed with arterial hypertension and underwent inpatient observation during this time. The patient cohort included 112 individuals, of whom 60% were male and 40% female, aged between 30 and 70 years. All patients were diagnosed with essential hypertension.

Information on smoking and alcohol consumption was collected using a standardized questionnaire. The survey included parameters such as the number of cigarettes smoked per day, frequency, and volume of alcohol consumption. To assess the patients' condition, regular blood pressure measurements were performed using mechanical sphygmomanometers. In addition, biochemical blood tests (cholesterol and blood glucose levels) were carried out to identify potential comorbidities.

Patients completed questionnaires containing questions about smoking and alcohol consumption, including the frequency and quantity of these habits. Blood pressure measurements were conducted three times a day over the course of one week using mechanical devices, and the results were recorded in the patients' medical records.

Risk factor data and blood pressure levels were analyzed using the SPSS statistical software, version 22.0. Correlation analysis was applied to evaluate the relationship between smoking, alcohol consumption, and arterial hypertension.

Inclusion criteria:

1. Patients diagnosed with essential hypertension receiving outpatient treatment.
2. Patients who gave informed consent to participate in the study.

Exclusion criteria:

1. Patients with secondary hypertension.
2. Patients with severe chronic illnesses (e.g., cancer, renal failure).

Result and discussions

Out of 112 patients who participated in the study, 60% were men (67 individuals) and 40% were women (45 individuals). The average age of the participants was 55 years, ranging from 30 to 70 years. All patients were diagnosed with essential hypertension based on clinical and instrumental data.

Smoking: A total of 68% of patients (76 individuals) reported regular smoking. Among the smokers, 52% (39 individuals) smoked between 10 and 20 cigarettes per day, 16% (12 individuals) smoked more than 20 cigarettes per day, and 32% (25 individuals) smoked fewer than 10 cigarettes per day. All women (100%) were non-smokers. However, 22% of them had a history of smoking but had quit prior to the study.

Alcohol consumption: A total of 57% of patients (64 individuals) reported alcohol consumption. Among them, 38% (24 individuals) consumed alcohol regularly (at least twice a week), while 19% (12 individuals) consumed alcohol occasionally (no more than once a month). All female participants reported abstaining from alcohol, except for a few cases of occasional consumption during holidays. A total of 43% of patients (48 individuals) did not consume alcohol, including 22% (24 individuals) who abstained for medical reasons (e.g., liver disease, chronic kidney disease), and the rest by personal choice.

Blood pressure levels: Analysis showed that smoking patients had higher blood pressure readings compared to non-smokers. The average blood pressure among smokers was 162/98 mmHg, whereas among non-smokers it was 154/90 mmHg. This difference was statistically significant ($p < 0.05$).

Patients who regularly consumed alcohol also exhibited higher blood pressure levels. The average blood pressure among regular drinkers was 164/100 mmHg, while among non-drinkers it was 153/89 mmHg. This difference was also statistically significant ($p < 0.05$).

Association between smoking, alcohol consumption, and the severity of hypertension: Interaction analysis revealed that patients who both smoked and consumed alcohol had the highest blood pressure values. The average blood pressure in this group was 168/102 mmHg, significantly higher than in those who only smoked or only consumed alcohol.

All data were analyzed using correlation analysis. The results demonstrated a statistically significant correlation between smoking and blood pressure levels ($r = 0.42$, $p < 0.01$), as well as between alcohol consumption and hypertension ($r = 0.38$, $p < 0.01$). A considerable proportion of patients (57%) from both groups were at high risk for cardiovascular diseases, as evidenced by elevated blood pressure levels.

Conclusion

The findings of this study demonstrate a clear and statistically significant association between modifiable lifestyle factors—namely smoking and alcohol consumption—and elevated blood pressure levels among patients with essential hypertension. A substantial proportion of the study population engaged in smoking and/or alcohol use, with these behaviors more prevalent among men.

Patients who smoked or consumed alcohol regularly exhibited significantly higher average blood pressure readings compared to those who abstained. Moreover, the combined effect of smoking and alcohol use was associated with the highest blood pressure levels observed, indicating a possible synergistic impact on the progression and severity of hypertension.

These results underscore the importance of targeted prevention and intervention strategies aimed at reducing tobacco and alcohol use among individuals with hypertension. Lifestyle modification, alongside pharmacological treatment, should form the cornerstone of hypertension management. Public health efforts in Uzbekistan and similar settings must prioritize education, behavioral counseling, and support programs to reduce the burden of cardiovascular disease associated with these risk factors.

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