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Arterial Hypotension Epidemiology in Adolescents and Youth in Fergana

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ABSTRACT: The study analyzed data from a representative sample of adolescents and young men, 1465 people involved in a one-stage epidemiological survey. The prevalence of arterial hypotension (AH) was 18.6% (among adolescents - 10.8% and among youth - 45.2%; P<0.001).

The revealed results should be considered when developing and implementing preventive programs for adolescent and young populations living in the regions of Uzbekistan.

KEYWORDS: Epidemiology, Prevalence, Arterial Hypotension (AH), Adolescents, Young Men

INTRODUCTION

It is well acknowledged that the significance of epidemiological researches in the realization of scientific and practical tasks for the prevention of cardiovascular diseases (CVDs) is becoming increasingly significant around the world. This is due to the fact that CVDs are the non-infectious illnesses that inflict the most harm to the modern population [1,3]. The adoption of epidemiological study results as the primary basis of CVD prevention might considerably lower "endpoints" in the community and/or in patients in this category [2,4,5]. In Uzbekistan, an increase in the prevalence of CVDs and mortality from them has been observed for several years. Obviously, the search for new population prophylactic approaches, which would reduce the "solid endpoints" in the population in CVDs, is an urgent scientific task.

The purpose of this study is to investigate the epidemiology of arterial hypotension among adolescents and youth in Uzbekistan

MATERIALS AND METHODS

Results of surveys of random, representative samples from teenagers (15-17 years old) and adolescents (18-22 years old) in the Fergana Valley of Uzbekistan served as the material for the current study.

A standardized one-stage epidemiological survey of teenage and adolescent populations (total number of those surveyed was 1465, response rate 97.8%) in the Namangan region of the Fergana Valley was conducted according to a unified protocol. The research is a subset of an epidemiological study that aims to explore the epidemiological aspects of the primary chronic non-infectious illnesses in Uzbekistan's Fergana Valley. This article examines the findings in terms of the epidemiology of arterial hypotension (AH).

Arterial hypotension was diagnosed when blood pressure ≤ 100/60 mmHg according to WHO criteria (1989).

SAS, SPSS, and EXCEL-2000 statistical analysis programs were used to process and evaluate the data.

RESULTS AND DISCUSSION

A comparative analysis of AH prevalence rates showed that about 18.6% of adolescents and youth suffer from this disease. This corresponds to a high risk of cardiovascular complications. It turned out that every tenth adolescent (10.8%) and 45.2% of young have AH (P<0.001). These data assert that the situation in the regions of Uzbekistan in terms of the probability of developing cases of AH among adolescents and youth and the prevention of this pathology is undoubtedly urgent.

The frequency of primary and secondary AH in the 17-22 year old group was 12.9 % and 5.6 %, respectively (P0.01). The youth had a greater prevalence of primary and secondary AH (27.4% and 17.6 %, respectively, P<0.05) than adolescents (8.6% and 2.2%, P<0.01).

The study showed that the prevalence of physiological AH in the population sample was 4.2% among 0.4% of adolescents and 17.0% among youth (P<0.0001). Pathological AH was diagnosed in 14.4% of the examinees (10.4% in adolescents and 28.2% in youth, P<0.01). The greatest prevalence of chronic AH was 11.5%, significantly higher in youth (26.8%) than in adolescents (6.8%); P<0.001. The overall incidence of acute AH was no more than 7.2%, with 18.2% of cases diagnosed in youth and a comparatively lower prevalence in the 14-17 year old surveyed group (4.0%); P<0.05.

The study found that among 17-22 year old natives of Uzbekistan's Fergana Valley, the prevalence of neurocardiac hypotension is substantially greater in youth (27.7 %) than in adolescents (9.9 %); P0.01. This type of AH occurred at a frequency of no more than 13.7% in the overall sample.

The findings indicate that the prevalence of postprandial hypotension was 9.8% in the total sample of examinees, - 4.2% in adolescents, and -28.6% in youth (P0.001). However, orthostatic hypotension (OH) had a lower prevalence of 4.2% (3.1% among 15-17 year olds and 8.1% among 18-22 year olds, P0.01). AH with transient ischemic attacks had very identical epidemiological features, with 4.8% in the total sample and 3.7% in adolescents and youth (P<0.05).

The incidence of hypotension caused by cardio arrhythmia was rather higher in youth (6.3%) compared to adolescents (2.2%); P<0.001. In the general sample, its prevalence was 3.1%. A comparable significant contribution to the likelihood of juvenile hypotension, according to our data, was made by the medication factor. Thus, the prevalence of drug-induced hypotension in the population sample was between 1.2% and 1.0% among adolescents, and 2.1% among youth (P<0.01).

Overall, a relatively high distribution of AH was detected among adolescents and youth (Fig. 1).

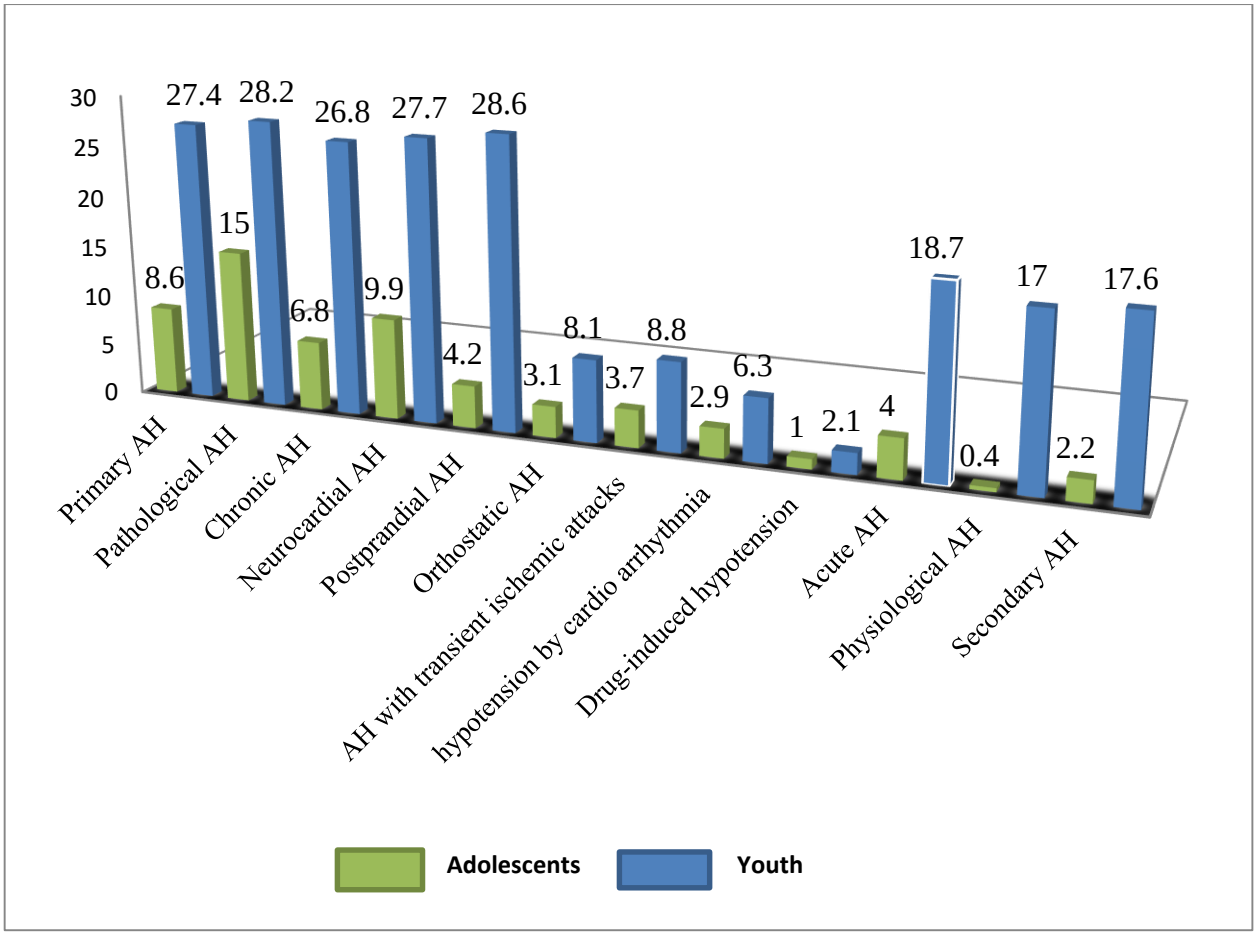

Figure 1. Distribution of arterial hypotension among studied adolescents and youth of Fergana Valley.

These findings should be considered in the development of regional AH prevention strategies for the adolescent and juvenile populations. The arterial hypotension prevention program should comprise a set of interventions that take into consideration special features of Uzbekistan's Fergana Valley areas and are directed at risk factors that negatively influence the population health of adolescents and youth. These preventive measures increase the targeting of prevention and are necessary to reduce the epidemiological endpoints from arterial hypotension in the general population of adolescents and young men in Uzbekistan.

CONCLUSIONS

1. A comparative analysis of the incidence of arterial hypotension among teenagers (10.8 %) and juveniles (45.2 %) enabled us to identify geographical factors that should undoubtedly be considered when planning and executing comprehensive prevention programs.
2. It should be noted that comprehensive primary and secondary prevention of juvenile AH is not only the task of researchers and practical health care. Along with state budget allocations, the involvement of extra-budgetary sources of income of the region and local authorities to develop and implement a program of active prevention of AH and other chronic non-infectious diseases among adolescents and young adults is of particular importance.

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