Regional, Ethnic and Age-Sexual Features of Acute Coronary Syndromes in Fergana Region

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ARTICLE INFO	ABSTRACT
Published Online: 01 December 2021	**Background.** Cardiovascular diseases (CVDs) are a group of disorders of the heart and blood vessels. The most important behavioral risk factors for heart disease and stroke are unhealthy diet, physical inactivity, tobacco use and harmful use of alcohol. Exposure to behavioral risk factors can manifest in humans as high blood pressure, high blood glucose, high blood lipids, and overweight and obesity.
	Methods. The research was conducted on hospitalized male and female patients aged from 26 to 88 years with suspicion of the acute coronary syndrome (ACS) at the time of admission to the hospital in the Andijan and Fergana Valley. Overall, 653 patients were examined. The study included a retrospective and prospective part with the inclusion of patients with ACS.
Corresponding Author: **Ulugbek Karimov**	**Findings.** Fairly wide prevalence of ACS was revealed in terms of their epidemiological characteristics in both gender groups, as well as in different age groups. It is necessary to improve the work on "life-saving prevention" among the population in relation to an adequate assessment of the symptoms of CVD in patients and the implementation of medical recommendations for optimizing prevention, early detection and treatment of ACS.
KEYWORDS: Cardiovascular diseases, heart and blood vessels, behavioral risk, acute coronary syndromes, Fergana region.	

INTRODUCTION

According to international statistics, mortality from CVD is growing every year in economically developed countries, and the growth of "endpoints" from ACS among the working-age population is especially alarming [3,5]. In addition, it was noted that the most objective method for obtaining true data on the incidence and mortality of the population from ACS are epidemiological studies and ACS registers [9,10,11].

The purpose of our study was to study the epidemiological situation with ACS in the population of Andijan region – the first step in the development and implementation of regional preventive programs for ACS/CVD in Uzbekistan, aimed at reducing the "endpoints" of the population.

MATERIALS AND METHODS

The object of the study was all consecutively hospitalized male and female patients aged from 26 to 88 years with suspicion of the ACS at the time of admission to the hospital in the Andijan and Fergana Valley. 653 people were examined. The study included a retrospective and prospective part with the inclusion of patients with ACS. In the course of the analysis, the epidemiological characteristics and qualities of the lifetime diagnosis of ACS were revealed, for which the final diagnosis was drawn up with the pathologic one, comparing the main background and concomitant diseases, as well as fatal complications. The collection of the necessary information was carried out by the method of questioning. We used a questionnaire and criteria developed in the framework of the Russian Register of Acute Coronary Syndromes (RECORD-2) to identify and verify clinical variants of ACS. Comparative analysis of indicators was carried out by age (26-50 years old, 50-64 years old, 65-75 years old and> 75 years old) and gender (men and women). Statistical processing was carried out on a personal computer using the STATISTICA 6.0 software packages, as well as

Microsoft Excel 2003.The results are presented as a percentage. We used the Pearson χ2 test; the differences were considered significant at p <0.05.

RESULTS AND DISCUSSION

Table 1 presents data on the prevalence of ACS in the adult population of Andijan. From the data in Table 1, it can be seen that the prevalence of suspected ACS in the Andijan population varies by more than 24 times depending on the stages of examination and observation of patients (P <0.001).

Thus, the prevalence of ACS was: according to the results of the first stage of the examination (at admission) – 74.3%, according to the results of the second stage (in ICU or cardiac intensive care) – 22.7% and according to the results of the third stage (in the department) – 3.1%. At different stages of observation and examination, ACS with ST elevations and without ST elevations were detected - 65.9% and 75.7% each (P <0.05), 37.0% and 22.5% (P <0.05), 9.8% and 2.2% (P <0.001) - according to the results of the 1st, 2nd and 3rd stages of the survey, respectively.

Table 1. Prevalence of acute coronary syndromes in the adult population of Andijan

ACS categories	Total ACS frequency		I stage (1)		II stage (2)		III stage (3)		Difference statistics by t-test (P)		
	Abc.	%	Abc.	%	Abc.	%	Abc.	%	<0,05	<0,01	<0,001
ACSpST	82	13,4	54	65,9	20	37,0	8	9,8	1-2	-	1-2 2-3
ACSbpST	530	56,6^{xxx}	401	75,7^x	119	22,5	1	2,2	-	1-2	1-2 1-3 2-3
All ACS	612	100,0	455	74,3	139	22,7	19	3,1	-	-	1-2 1-3 2-3

Note: the table shows the prevalence of ACS at admission (stage I), BIT (stage II) and department (stage III)

It should be noted that the highest incidence of ACS is diagnosed when patients are admitted to the hospital, significantly less in BIT and with the lowest frequency in departments. Further, the proportion of patients with ACS with ST elevations is traditionally higher and is about 1/3 of patients with ACS [1]. In our study, there were quite a few patients (1.2 times, P <0.05) with ACS without ST elevations, which may be why they were mainly treated not in the ICU or cardiac intensive care unit, but in the general ward.

According to the data obtained, in the surveyed population of Andijan, there are quite significant differences in the prevalence of ACS depending on gender (Table 2). The frequency of ACS in women and men aged 26-88 years according to the results of the examination of the 1st, 2nd and 3rd stages of the survey was respectively: 86.9% and 68.3% (P <0.05), 11, 1% and 28.2% (P <0.01), 2.0% and 3.6% (P <0.05). The frequency of ACS was significantly higher in women than in men according to the results of the I stage and, on the contrary, comparatively less - according to the results of the II and III stages of examination/observation of patients in the ICU or cardiological/therapeutic departments.

Table 2. Prevalence of Acute Coronary Syndromes in the Adult Population by Sex

Examined groups	Total ACS frequency		I stage (1)		II stage (2)		III stage (3)		Difference statistics by t-test (P)		
	Abc.	%	Abc.	%	Abc.	%	Abc.	%	<0,05	<0,01	<0,001
Women 26-88 years old	198	32,4	172	86,9^x	22	11,1	4	2,0	-	-	1-2 1-3 2-3
Men 26-88 years old	414	67,6	283	68,3	117	28,2^{xx}	15	3,6^x	-	1-2	1-2 1-3 2-3
General population 26-88 years old	612	100,0	455	47,3	139	22,7	19	3,1	-	-	1-20 1-3 2-3

Further, the frequency of ACS was studied in different age groups in women and men. Data in this regard are presented in Tables 3 and 4.

Table 3. Prevalence of acute coronary syndromes among the female population depending on age

Examined groups	N	< 50 years old (1)		50-64 years old (2)		65-75 years old (3)		> 75 years old (4)		26-88 age (N=612)		Difference statistics by t-test (P)		
		n	%	n	%	n	%	n	%	n	%	<0,05	<0,01	<0,001
Female population 26-88 years old	168	26	13,1	100	50,5	55	27,8	17	8,6	168	32,4	1-4 2-3	3-1	2-1 2-4 3-4

As can be seen from the data in Table 3, the frequency of ACS in women tends to increase depending on age. The frequency of ACS increases by 37.4% or 3.9 times (P <0.001) with age. Among women under the age of 50, the frequency of ACS is 13.1%, and among people aged 50-64, every second woman suffers from ACS. It was revealed significant differences in the frequency of ACS in the age groups of the surveyed women. Thus, the frequency of ACS among women 65-75 years old (27.8%) turned out to be 2.1 times, and among women 75-88 years old (41.0%) – 3.2 times higher than among women under 50 years old (13.1%). It should be noted that the differences found were highly significant.

According to the results of our study, in the surveyed male population there are also quite large differences in the prevalence of ACS in different age groups (Table 4). In general, the prevalence of ACS in different age ranges of the surveyed is determined as follows: in the group of men under 50 years old - with a frequency of 25.4%, at 50-64 years old - 50.2%, 65-75 years old - 18.6% and age> 75 years - 5.8%. Among men aged 26-88, the frequency of ACS is 67.6%. The incidence of ACS at the age of 50-64 years was significantly higher than at the age of <50 years. However, the frequency of ACS in the age groups 65-75 years old and> 75 years old tends to decrease - to 18.6% and 5.8%, respectively, the differences revealed in these groups turned out to be statistically insignificant. This, in all likelihood, is due to the small number of patients in the groups under consideration.

Table 4. Prevalence of acute coronary syndromes among the male population depending on the age

Examined groups	N	< 50 years old (1)		50-64 years old (2)		65-75 years old (3)		> 75 years old (4)		26-88 лет (N=612)		Difference statistics by t-test (P)		
		n	%	n	%	n	%	n	%	n	%	<0,05	<0,01	<0,001
Male population 26-88 years old	414	105	25,4	208	50,2	77	18,6	24	5,8	414	67,6	2-1	2-1 2-3 3-4	1-2 1-4 2-4

Particular attention should be paid to the data that in the range of young age the proportion of men noticeably exceeds (P <0.05) women (Fig. 9), in the range of middle age the ratio of men to women is comparable, and in the range of older age the proportion of women clearly exceeds men (P <0.05).
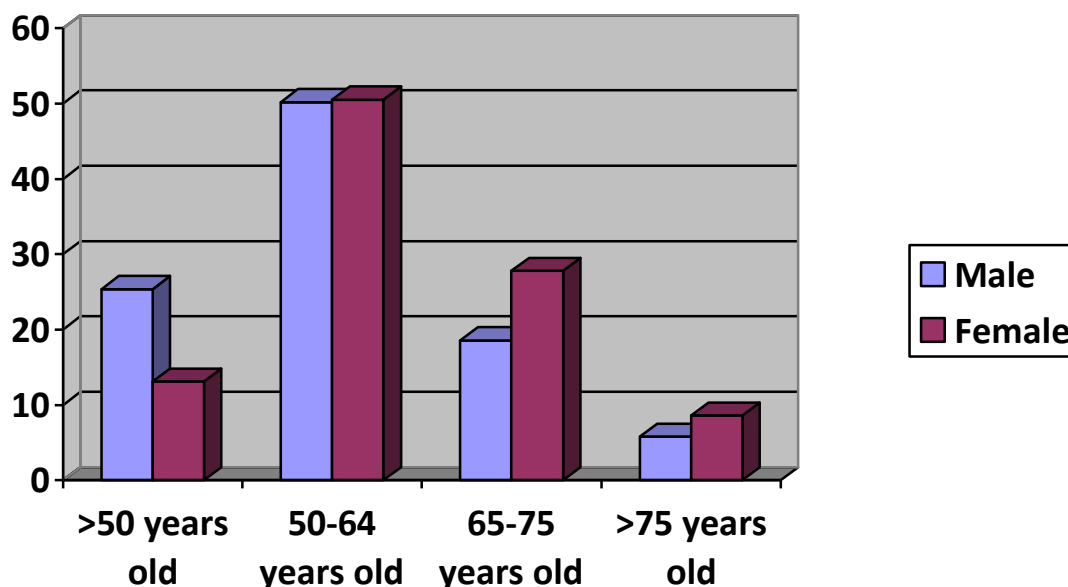
Fig. 1. ACS prevalence by age depending on gender

CONCLUSION

Thus, in the surveyed population, a fairly wide prevalence of ACS was revealed in terms of their epidemiological characteristics in women and men, as well as in different age groups. It is necessary to improve the work on "life-saving prevention" among the population in relation to an adequate assessment of the symptoms of CVD in patients and the implementation of medical recommendations in order to optimize the prevention, early detection and treatment of ACS.

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