

THE GENDER-AGE FEATURES OF PREVALENCE OF THE RISK FACTORS IN THE PATIENTS WITH SHARP CORONARY SYNDROME/ACUTE MYOCARDIAL INFARCTION BY THE DATA OF THE REGISTER IN ONE OF THE REGION OF TASHKENT.

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In Uzbekistan there has been noted the growth of morbidity and mortality because of cardio-vascular diseases (CVD) over the last two decades and the structure of the common mortality does not differ from the world: cardio-vascular diseases are also the most important cause of the death^[1,2,3]. The increase of morbidity and referrals to the doctors (the quantity of the registered patients) due to CVD (from 1410,0 to 2228,7 and from 7200,5 to 7541,5) заболеваемости and morbidity (i.e. quantity(amount) of the registered patients) from CC3 (according to 1410,0 up to 2228,7 and with 7200,5 up to 7541,5, respectively) in 2004 -2009 indicates about activation of the identification and taking into account of the patients with cardio-vascular pathology^[4]. The development of ACS/AMI is accompanied by high frequency of cases of hospital death and not fatal cardiovascular complications, the leading role in which development is allocated to the risk factors (RF) not only to separate, but also to their associations, especially, that potentiates an opportunity of the development of disease and its outcome in dependence on the number of RF. It is important also, that the potential of each RF may have regional differences. The concept of risk factors (RF), based on the results of started in 1948 Framingham heart study is a scientific basis of prevention of the cardiovascular diseases (CVD)^[5,6,7]. In this research has been revealed that the main risk factors of CVD of atherosclerotic genesis are presented by arterial hypertension (AH), hypercholesteremia (HCS), smoking, obesity, diabetes mellitus (DM) and low level of physical activity, and also high level of triglycerides in the blood and low level of cholesterol of high density lipoproteins, age and gender. These main risk factors of CVD, forming the total risk and influencing on the prognosis, may be determined at the relatively simple screening observation with use of standard methods of examinations^[8]. In the numerous epidemiological studies there has been proved that performance in time of preventive measures in the relation of RFs can reduce morbidity and mortality due to CVD^[9,10]. **Purpose.** To study the gender-age features of the prevalence of risk factors (RF) in the patients with ACS/AMI on the basis of the register in one of the regions of Tashkent. **Material and methods.** The data from cohort prospective study "Register of acute myocardial infarction and acute coronary syndrome in one of the regions of Tashkent" were the basis for present study. ACS and AMY were studied among the constant population in one of the regions of Tashkent with analysis of the following documentation: the date of the "03" service, medical histories and extracts from case reports, ambulatory cards from the polyclinic histories of illnesses and extracts from стационара, out-patient maps from polyclinic, protocols of openings, certificates from the service of forensic medicine, certificates of death from the municipal registration system. There were used populational-preventive, statistic, mathematic methods with calculation of the criteria χ^2 and Mac-Nimar for determination of the reliable differences of the qualitative parameters. **Results.** The risk factors of ACS/AMI were found in 683 (100%) of patients, including 1 RF – in 40(5,8%) patients, 2RF – in 129(18,9%), 3RF – in 218(31,9%), 4RF – in 147(21,5%), >5 – in 149 (22,0%). Arterial hypertension was on the first place – 81,7%, increased BMI – on the second place -81,2%, smoking – on the third – 44,5%, hypercholesteremia (HCS) – on the fourth -37,5%, DM – on the fifth place -32,5%.

Table 1. Clinical characteristic of the hospitalized patients with ACS/AMI

Parameter	Studied patients			P
	Totally n= 406	men n= 262	women n= 144	
BMI kg/m ²	28,0±4,1	27,4±3,6	29.1±4,6	0,001
CSAP,mm H.	133,54±29,94	131,35±30,57	137,53±28,5	0,046

DAP, mm H.	83,68±49.43	84,33±60,03	82,5±18,4	0,72
Total cholesterol mg/dl	264,66±36,89	196,84±54,41	210,6±60,9	0,023
Triglycerides	182,66±40,41	190,43±85,51	189,37±81,26	0,036
Heart rate	84,11±23,78	83,3±25,6	85,4±20,05	0,039
Blood glucose	8,76±3,25	7,06±3,38	7,71±4,15	0,089

The average meaning of BMI in the studied patients corresponded to the body mass (28,0±4,1 kg/m²) and was comparable in men and women (27,4 3,6 and 29,1 4.6, respectively) (p=0,001). The share of the patients with obesity (BMI>30 kg/m²) accounted for 26,1%; among the women the share of subjects with obesity was

reliably higher, 35,6% and 21,5% (p=0,001). The obesity prevalence in men and women increased with age rising and achieved maximum to 50-69 years 78,6% and 83,7%, respectively. (Fig.1).

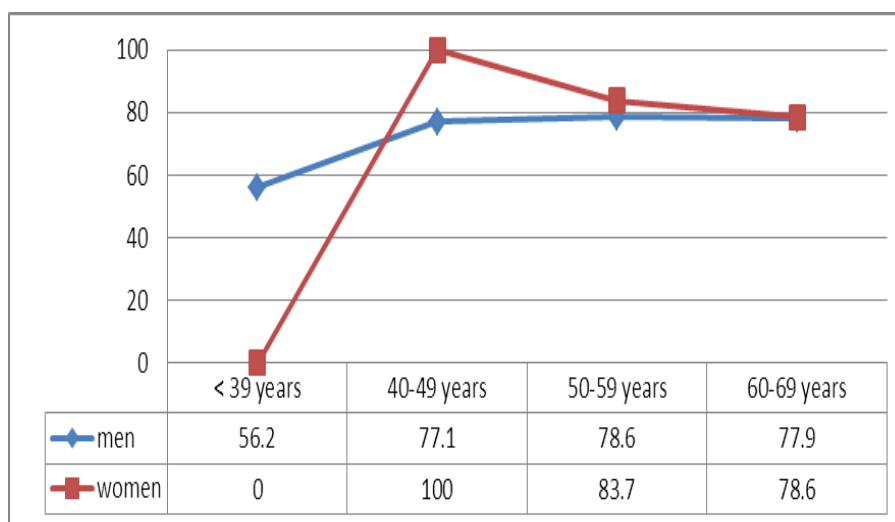


Figure 1: Prevalence of obesity (BMI≥30 kg/m²) among the studied patients of various gender-age groups.

From the age group 40-49 years the difference in the prevalence of obesity (77,1 % and 100 %, respectively) between the men and women became statistically significant (p < 0,001).

The analysis of risk factors has shown that arterial hypertension in the medical history was revealed in 81,7 % of the patients, including 78,2 % in the men and 89,0 % in the women.

The analysis of AH prevalence has shown, that in 26,6 % of the patients there was noted I degree AH (24,4 % in the men and 30,5 % in the women), in 15,7 % - II degree (14,5 % in the men and 18,1 % in the women), in 5,4 % - III degree (4,6 % and 6,9 % , respectively). AH of I degree was observed more often in subgroups of AMI without Q wave and ACS without rise of ST (38,2 % and 28,7 %, respectively), and AH of II degree met mostly in subgroups AMI with Q wave and ACS without rise ST (15,9 % and 18,5 %, respectively) (Table 2).

Table 2. The gender peculiarities of the prevalence of arterial hypertension in the patients with ACS/AMI

AP category.	AMI with Q wave			AMI without Q wave			ACS with ST rise			ACS without ST rise		
	men	women	Total	men	women	Total	men	women	Total	men	women	Ttal
<120 optimal AP	21 (45,6)	5 (21,7)	26 (37,7)	4 (19,0)	3 (23,1)	7 (20,5)	15 (37,5)	4 (44,4)	19 (38,8)	29 (18,7)	17 (17,2)	46 (18,1)
AH I stage 140-159	6 (13,0)	5 (21,7)	11 (15,9)	7 (33,3)	6 (46,1)	13 (38,2)	9 (22,5)	2 (22,2)	11 (22,4)	42 (27,1)	31 (31,3)	73 (28,7)
AH II stage 160-179	5 (10,8)	6 (28,1)	11 (15,9)	2 (9,5)	1 (7,7)	3 (8,8)	3 (7,5)	-	3 (6,1)	28 (18,0)	19 (19,2)	47 (18,5)
AH III stage ≥ 180	2 (4,3)	2 (8,7)	4 (5,8)	2 (9,5)	-	2 (5,9)	2 (5,0)	1 (11,1)	3 (6,1)	6 (3,9)	7 (7,1)	13 (5,1)
Both genders	46	23	69	21	13	34	40	9	49	155	99	254

Note: the percents in the appropriate subgroup are specified in brackets.

AH 1 degree was observed more often in the patients with AMI without Q wave and ACS without rise of

ST(38,2% and 28,7%, respectively), and AH II state was occurred more often in the patients with AMI with Q

wave and ACS without rise of ST (15,9% and 18,5%, respectively).

In this study hypercholesteremia (>200 mg/dl) was revealed in 36,7% patients, including 35,5% of men and 38,9% of women.

The analysis of HCS prevalence in relation to age has shown, that the high prevalence of this parameter was observed among the men in the age of 40-49 years (51,4 %) and among the women in the age of 60 - 69 years (42,7 %) at $p < 0,001$ (fig. 2).

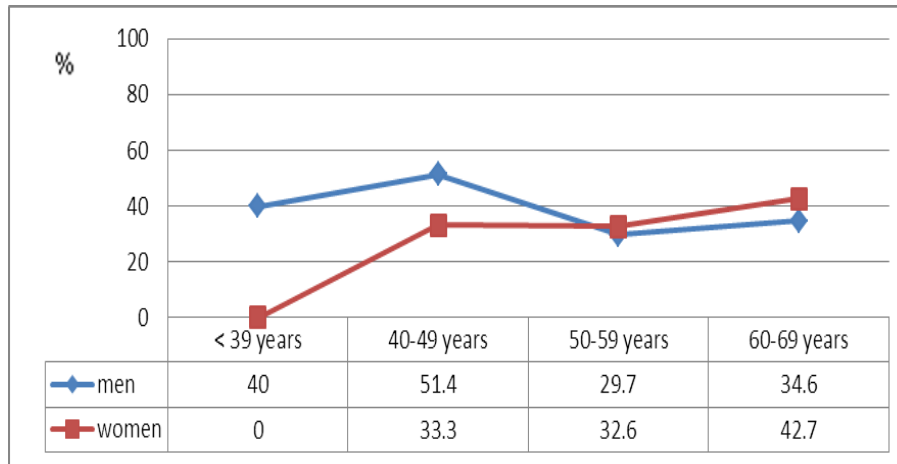


Figure 2

The hypercholesteremia often occurred in the subgroup of AMI with Q wave at the age of 65-69 years, in the subgroup of AMI without Q wave at the age of 60 - 64 years (46,4 % and 50,0 %, respectively). In the women with AMI with Q wave the frequency of HCS increased with age rising and accounted for at the age of 50-54 years - 11,1 % and at age of 65-69 years - 66,7 % ($p < 0,001$). This parameter among the men at the age of 45-

49 years accounted for 26,3 %, and in the senior age group of 65-69 years - 36,8 %.

According to the data of the American public health service, in all age groups acute coronary events develop more frequently among the smokers. They have risk 2-fold higher risk of non-fatal MI and 2-4-fold higher risk of sudden death.

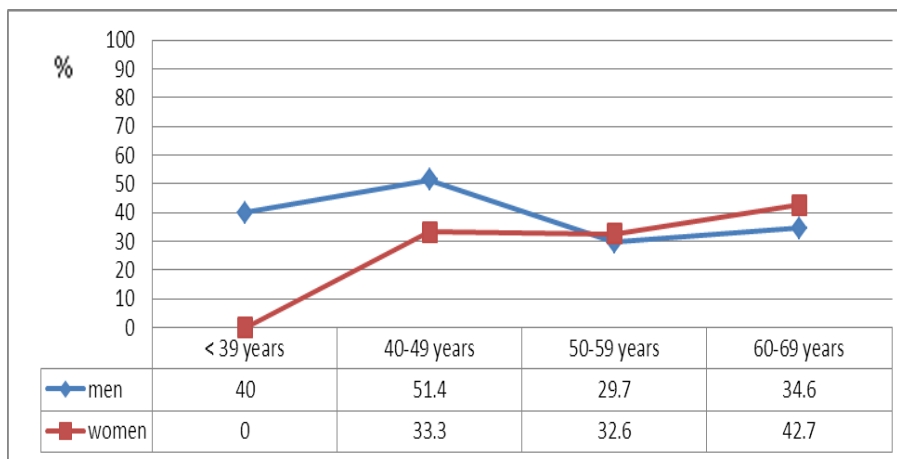


Figure 3: The gender characteristics of the prevalence of smoking in the patients with ACS/AMI

According to our results the distribution of smoking among the all population was 32,2% and among the man in the all age cohorts was reliably higher than in women (45,8 % and 7,6 %, respectively, $p < 0,05$). The peak of smoking distribution among the men and women (65,7 % and 16,7 %, respectively accordingly, $p < 0,01$) was found at the age of 40-49 years and with increase of age there was revealed tendency to reduction. Among the men this parameter was higher 6 times, than in the

women. In the past among the smokers men were 9,5% and women 2,7%.

The ischemic heart disease appears to be the most frequent reason of death among the adults with diabetes mellitus in the Europe.. In several researches there was shown, that in such patients the risk was 2-3 times higher, than in the persons without diabetes mellitus. The prevalence of IHD considerably differs between the patients with DM type I and type 2 as ell as in different

populations. The observational research with participation of 10 centres performed after multinational research of WHO on vascular diseases at DM and including 4700 patients with DM type 1 and type 2, showed that IHD was the most frequent cause of death providing for 44% of all cases of death in the patients

with DM type 1 and in 52% in the patients with DM type 2.

In our cohort 32,5% of patients suffered from DM, the women were 1,4 times more often, than men (41,1 % and 28,1 %, respectively, $\chi^2=69,423$; $p=0,001$).

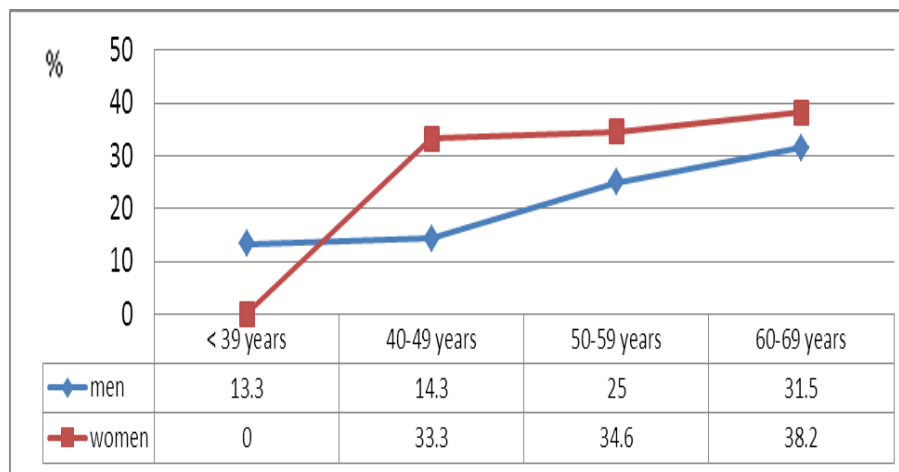


Figure 4: Prevalence of Diabetes Mellitus among the patients with ACS/AMI of one of the regions of Tashkent

The analysis of parameter in relation to age decades has shown, that the frequency of DM increased with higher age both in the men, and in the women with peak at the age of 60-69 years, 31,5 % and 38,2 %, respectively, ($p > . 0,05$). Diabetes mellitus occurred in 13,3% in men at the early age, < 39 years (fig. 4.). Sharp prevalence of DM in the subgroup of women was noted at the age of 40-49 years 2,3 times more often, than in subgroups in this age group (33,3% and 14,3%, respectively).

Thus, according to the data of the Register in the patients with ACS/AMI the high frequency of modified CVD RF (100 % of studied) was revealed. The first place was occupied by AH, second – increased BMI, third - smoking, fourth – hypercholesteremia, fifth - DM, and the combination of 3 risk factors was met in 31.9 %. The prevalence of DM increased with age rising, and of smoking - decreased. At 81,2 % of the patients there was noted higher BMI and/or obesity, and with equal frequency both among the men, and among the women (79,3 % and 85,4 %, respectively). Hypercholesteremia and AH were observed more often among the women, while the smoking was characteristic for the men.

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