Studying the Prevalence of Risk Factors for Some Major Noncommunicable Diseases Among the Women Population

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Abstract: **Purpose of the study.** The study of the frequency of occurrence of some internal diseases among women of childbearing age

Material and methods. Representative sample of the unorganized female population aged 15 to 69 in the amount of 797 people. The study was conducted in polyclinics and clinics in Bukhara among 555 women and 242 men

Results. he article presents the results of the study of the prevalence of some internal diseases among women. The information on the prevalence of the main internal diseases in the inspection serves as the basis for the development and implementation of the program of prevention and treatment of these diseases..

Key words: arterial hypertension, hyperlipidemia, diabetes mellitus, abdominal obesity, metabolic syndrome.

Introduction

The basis for the development and implementation of preventive programs for the early detection and prevention of various diseases is the assessment of the true prevalence of these diseases and their relationship with various socio-demographic characteristics of the population and risk factors (3,5,8).

It should be noted that the significance of individual risk factors in the formation of metabolic syndrome (MS) in different populations is not entirely clear. Therefore, it is necessary to study the epidemiology of diseases, taking into account risk factors for the creation and adequate implementation of preventive programs. For the MS, this means identifying and tracking its key components. MS and its major components need to be studied in every region and every population. This is due to the fact that factors such as lifestyle, ecology, nutritional habits, as well as genetic and behavioral characteristics of the population are of great importance in the diagnosis of metabolic syndrome and many other diseases. The main priorities of the WHO are the preservation and improvement of the health of the world's population. The current state of health of the population is mainly associated with non-communicable diseases. In this series, it should be noted the high prevalence of metabolic syndrome. The overall prevalence of MS in different countries ranges from 6-

7% to 35-56%. According to experts, most people "spend an average of 10 years of their lives in a state of illness" (6,9,10,11).

In world practice, a lot of work is being done to identify and treat MS. According to WHO experts, "every fourth inhabitant of our planet suffers from metabolic syndrome." At the same time, MS is one of the main causes of mortality in the population. It is alarming that the prevalence of MS continues to increase rapidly (1,2,4,7).

In connection with the above, the prevalence of a number of internal diseases among women of childbearing age was studied. The analysis includes such diseases and pathological conditions as arterial hypertension (AH), overweight (BMI) and obesity, impaired glucose tolerance (IGT) and diabetes mellitus (DM), hyperlipidemia (7,12,13,14).

Purpose of the study. Studying the frequency of occurrence of some risk factors for chronic non-communicable diseases among the women

Material and methods. Representative sample of the unorganized female population aged 15 to 69 in the amount of 797 people. The study was conducted in family clinics in Bukhara among 555 women and 242 men.

Blood pressure (BP) was measured according to the standard method, taking into account the average values of two measurements taken with an interval of 2 minutes. BP indicators were classified according to the WHO recommendations (WHO, 1999) and the criteria of experts of the All-Russian State Classification Committee of the Russian Federation (second revision, 2004). Due to the population nature of the study, the analysis was carried out in 2 groups: group 1 - persons with normal blood pressure: SBP ≤ 139 mm Hg. and (or) DBP ≤ 89 mmHg; group 2 - patients with hypertension - SBP ≥140 mm Hg; DBP ≥ 90 mmHg The group with hypertension also included persons with normal blood pressure, but taking antihypertensive drugs for 2 weeks prior to the examination.

When assessing body weight, the criteria of the International Group on Obesity WHO (IOTF WHO, 1997) were used, based on the levels of the Quetelet index: weight (kg) / height (m)². Cases of the Quetelet index level from 25 to 29.9 were attributed to BMI, and at the level of IC ≥30 it was recorded as obesity. Abdominal obesity (AO) was identified in accordance with the recommendations of the International Diabetes Federation (IDF, 2006).

Determination of glucose tolerance (conducting TSH, determination of blood sugar after exercise after 1 hour and after 2 hours. In accordance with these recommendations, the evaluation of the data obtained was carried out according to the following criteria (in mg%): normal glucose tolerance: with fasting glycemia < 100, 1 hour after glucose load <160 and 2 hours <100; impaired glucose tolerance: fasting glycemia <100; 1 hour after glucose load >160 and/or 2 hours >100; diabetes mellitus: fasting glycemia >100, 1 hour after glucose load >180, 2 hours >130.

The content of lipids in venous blood was determined on an autoanalyzer. The levels of cholesterol (CS) and triglycerides (TG) were studied. Hypercholesterolemia (HC) was taken as cholesterol >6.1 mmol/l, and hypertriglyceridemia (HTG) was taken as TG level >1.7 mmol/l.

Statistical data processing was carried out on a personal computer using the standard MedCalc application package. Absolute and relative indicators were taken into account, including the average values of quantitative indicators and their standard deviations (M; +δ). The relationship between the quantitative indicators of various traits was studied using correlation analysis (correlation coefficient - r). When assessing the reliability of differences in the studied indicators, Student's criterion (t) was used.

Results and discussions

Analysis of the data obtained shows that the prevalence of some risk factors among the female population was quite high (Table 1.). First of all, the prevalence of the main components of the metabolic syndrome (MS) was studied. This approach is explained by the fact that MS is currently the main cause of death in the population. Arterial hypertension is one of the leading components of MS. In this regard, the prevalence of hypertension among women was studied and the overall prevalence was 20.54%. Thus, every fifth woman aged 20 to 69 suffers from high blood pressure.

Table 1. The prevalence of arterial hypertension among the female population

Age group	AH is	no AH	Total
20-29 years	1,06	98,94	100,00
30-39 years	16,52 *	83,48	100,00
40-49 years	22,41 *	77,59	100,00
50-59 years	37,50 **	62,50	100,00
60-69 years	62,50 **	37,50	100,00
All women	20,54	79,46	100,00

Note: The table shows the significance of differences relative to the previous age group.

Attention should be paid to the following fact - the frequency of hypertension especially increases after 30 years (from 1.06% at the age of 20-29 years to 16.52% in the age group of 30-39 years). In subsequent age periods (40-49 years, 50-59 years and 60-69 years) there is a significant ($p<0.05$) increase in the frequency of AH (22.41%, 37.5% and 62.5%, respectively).

The next component of the metabolic syndrome studied was increased body weight (obesity). An analysis of the frequency of BMI and obesity in different age periods showed that in women after 30 years of age, the prevalence of both BMI and obesity is rapidly increasing. The frequency of BMI at the age of 20-29 years is 12.37%, and at the age of 30-39 years - 22.81% (differences are statistically significant, $p<0.05$). In other words, in the fourth decade of life, the incidence of BMI in women is 1.84 times higher than in the third decade.

Table 2. The prevalence of BMI and obesity among the female population

Age group	Norm		BMI		Obesity	
	n	%	n	%	n	%
20-29 years	157	84,41	23	12,37	6	3,23
30-39 years	65	57,02	26	22,81 *	23	20,18 **
40-49 years	66	56,90	24	20,69	26	22,41
50-59 years	28	38,89	18	25,00 *	26	36,11 **
60-69 years	20	31,25	23	35,94 **	21	32,81
All women	336	60,87	114	20,65	102	18,48

Note: The table shows the significance of differences relative to the previous age group.

In the next age group, the frequency of BMI does not increase, but even slightly decreases, but this decrease is not statistically significant ($p>0.05$). In subsequent age periods (50-59 years and 60-69 years) there is a significant increase in the frequency of BMI (25.0% and 35.94%, respectively, $p<0.05$).

The dynamics of the prevalence of obesity in different age periods in women is somewhat different from the dynamics of the frequency of BMI. On the one hand, there is the same rapid increase in the incidence of obesity after 30 years. However, if the frequency of BMI in the fourth decade was 1.84

times higher than the third, then the frequency of obesity in these age groups differed by 6.25 times (3.23% at the age of 20-29 years and 20.18% at the age of 30 years). -39 years).

In the following age periods, there is a further increase in the frequency of obesity (22.41% at the age of 40-49 years and 36.11% at the age of 50-59 years). In the age group of 60-69 years, the frequency of obesity is slightly reduced (32.81%). The reasons for this decrease are explained by the literature data on the intensive "elimination" of obese people from the population due to death from cardiovascular diseases, an important risk factor for which is obesity. Another reason is the high prevalence of oncological diseases at this age, in which there is a significant weight loss.

Currently, when assessing obesity, great importance is attached to abdominal obesity (AO). This is because many studies have shown that abdominal obesity is a more important risk factor for insulin resistance and cardiovascular disease.

Studies have shown that 42.57% of women have AO (Table 3). It is alarming that 17.74% of young women have AO. It should be noted that in the fourth decade there is a large increase in the frequency of AO. At the age of 30-39 years, the frequency of AO (46.49% is 2.62 times higher than at the age of 20-29 years (17.74%). The revealed differences were highly significant ($p<0.01$). Then, until At the age of 50, the frequency of AO practically does not change, but in the age groups of 50-59 years and 60-69 years, the frequency of AO again increases significantly (62.5% and 78.13%, respectively). , it should be recognized that in the female population there is a very high risk of developing CVD and the associated mortality of the population.

Table 3. Prevalence of abdominal obesity among the female population (%)

Age group	There are AO		No AO	
	n	%	n	%
20-29 years	33	17,74	153	82,26
30-39 years	53	46,49 **	61	53,51
40-49 years	54	46,55	62	53,45
50-59 years	45	62,50 *	27	37,50
60-69 years	50	78,13 *	14	21,88
All women	235	42,57	317	57,43

Note: The table shows the significance of differences relative to the previous age group.

Next, the prevalence of IGT and diabetes mellitus was studied (Table 4). The data obtained indicate a high prevalence of IGT and diabetes mellitus among the female population. Every fifth woman has IGT (20.0%), and 5.64% suffer from diabetes. Moreover, more than half of all cases of diabetes mellitus (3.09%) were not detected by doctors of medical institutions (they were identified in the course of this study) and less than half of cases of diabetes were detected earlier by doctors of health facilities and were registered (2.55 %).

The prevalence of IGT was the smallest in the youngest age group (20-29 years) in which it was 11.35%. In the next decade (30-39 years) there is more than a twofold increase (by 2.24 times) in the incidence of IGT (25.44%). In the fifth and sixth decades, the frequency of BMI decreases slightly, but this decrease is not significant ($p>0.05$). A new increase in the frequency of NTG occurs after 60 years. The frequency of IGT at the age of 60-69 years is 1.36 times higher than in the previous age period, and these differences are statistically significant ($p<0.05$).

Table 4. Prevalence of IGT and diabetes mellitus among women.

Age group	Normoglycemia	NTG	DM previously identified	Diabetes diagnosed for the first time	Total
20-29 years	87,57	11,35	-	1,08	100,00
30-39 years	74,56	25,44 *	-	-	100,00
40-49 years	73,28	21,55	3,45	1,72	100,00
50-59 years	59,72	22,22	6,94	11,11 *	100,00
60-69 years	53,97	30,16 *	7,94	7,94	100,00
All women	74,36	20,00	2,55	3,09	100,00

Note: The table shows the significance of differences relative to the previous age group.

Thus, these data indicate a high prevalence of IGT and diabetes mellitus among the female population. The fact that every fifth woman suffers from IGT, as well as the fact that these conditions are practically not detected, indicates that in the female population there is a large reserve for the formation of new cases of DM.

Another major component of MS is hyperlipidemia. The present study analyzed the prevalence of hypercholesterolemia (HC) and hypertriglyceridemia (HTG) among the female contingent. According to the data obtained, 14.22% of women have hypercholesterolemia. The dynamics of the prevalence of HC in different periods differs somewhat from that in relation to AH, IGT, DM and obesity (Table 5).

Table 5. The frequency of hypercholesterolemia among the female population (in%)

Age group	Yes HC		No HC		Total	
	n	%	n	%	n	%
20-29 years	6	8,96	61	91,04	67	100,00
30-39 years	3	7,69	36	92,31	39	100,00
40-49 years	5	10,00	45	90,00	50	100,00
50-59 years	9	30,00 *	21	70,00	30	100,00
60-69 years	7	28,00	18	72,00	25	100,00
All women	30	14,22	181	85,78	211	100,00

Note: the table shows the significance of differences relative to the previous age group

As it turned out, the greatest increase in the frequency of HC is noted after 50 years. In the age groups of 20-29 years, 30-39 years and 40-49 years, the frequency of HC was 8.98%, 7.69% and 10.0%, respectively. These small differences were not statistically significant (p>0.05).

At the same time, in the age group of 50-59 years, the frequency of HC (30.0%) was 3 times higher than in the previous age group (10.0%). Moreover, these differences were significant (p<0.05). Thus, we can conclude that the risk factor for HC is the age of women older than 50 years.

The data obtained do not fully correspond to the above information about the high increase in the frequency of other MS components after 30 years. Therefore, the question of the dynamics of the frequency of hypertriglyceridemia (HTG) in the examined contingent was of particular interest.

The analysis showed that the overall prevalence of HTG among the female contingent is 20.38%. This is somewhat higher than the GC frequency (Table 6). But the main difference was that the frequency of HTG increased after 30 years. In the age group of 30-39 years, the frequency of HTG (17.5%) was 1.67 times higher than in the age group of 20-29 years (10.45%)

Table 6. The prevalence of hypertriglyceridemia among the female population.

Age group	Have hypertriglyceridemia		No Hypertriglyceridemia	
	n	%	n	%
20-29 years	7	10,45	60	89,55
30-39 years	7	17,50 *	33	82,50
40-49 years	12	24,00 *	38	76,00
50-59 years	10	34,48 *	19	65,52
60-69 years	7	28,00	18	72,00

Note: The table shows the significance of differences relative to the previous age group.

These differences were statistically significant ($p < 0.05$). In subsequent age periods, the frequency of HTG continues to increase up to 60 years. After 60 years, the frequency of HTG decreases slightly.

The data obtained indicate that the HTG is an indicator that is more consistent with other components of the MS in terms of frequency dynamics in the population.

Next, the correlations between the studied risk factors were studied (Table 7).

Table 7. Correlation coefficients between indicators of the main components of the metabolic syndrome among women

	SBP	DBP	Quetelet index	cholesterol	TG	Fasting glucose	After 1 hour
DBP	0,69 *	-					
Quetelet index	0,32**	0,47 *					
Cholesterol	0,23 *	0,25 *	0,17				
TG	0,18 *	0,34 *	0,29 *	0,45 *			
Glycemia							
Fasting glucose	0,11 *	0,22 *	0,26 *	0,23 *	0,41*		
After 1 hour	0,25 *	0,13 *	0,20 *	0,09	0,32*	0,46 *	
After 2 hour	0,20 *	0,24 *	0,36 *	0,26 *	0,61*	0,39 *	0,47 *

According to the data obtained, there is an ambiguous correlation between individual risk factors. It turned out that, in general, the levels of almost all coefficients are reliable (the exceptions are the correlation coefficients of the Quetelet index with cholesterol and the cholesterol level with glycemia 1 hour after the glucose load).

Conclusion. Thus, the prevalence of risk factors for major internal diseases among women is quite high. The prevalence of hypertension is 20.54%, 20.65% of women have a BMI, 18.48% are obese, 42.57% of women have abdominal obesity, 14.22% have hypercholesterolemia, and 20.38% have hypertriglyceridemia. For arterial hypertension, abdominal obesity, overweight, obesity, the critical age is from 30 to 39 years.

Considering that a number of serious diseases increase significantly at the age of 30-39 years, in order to prevent the formation and progression of certain diseases, all persons with risk factors need to carry out therapeutic, diagnostic and preventive measures in previous age groups.

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