

## **Grouping of Military Respondents Based on Socio-Economic Status and Socio-Demographic Indicators**

**Khasanov R.R., Nuralieva D.M.**

*Military Medical Academy of the Armed Forces of the Republic of Uzbekistan*

[\*Email.n.d.m.doctor@gmail.com\*](mailto:n.d.m.doctor@gmail.com)

**Abstract:** The problem of chronic non-communicable diseases is not only medical, which makes it impossible to find a single correct and universal answer. Such a multi-component task requires equally complex solutions. However, in our opinion, the key to success is not the variety of options for prevention of CKD programs, but their thoughtfulness, completeness of implementation, monitoring of results, and continuous improvement [2.4].

**Keywords:** non-communicable Diseases, Military Personnel, Risk Factors, Socio-Demographic, Poor Nutrition.

**Introduction.** Over the past years, the Republic of Uzbekistan has implemented many regional programs in the field of public health improvement and rehabilitation. Preventive measures to combat non-communicable diseases in our republic became the basis for stabilization of NCD (successful control of NCD). Significant progress has been made in reducing the incidence of NCD through the promotion of healthy lifestyles (HWL) [1.3]. This was helped by the implementation of a set of organizational and practical measures to increase the effectiveness of the epidemiological control of the NCD; improving the qualifications of medical workers and providing information on the problem of non-communicable diseases; conducting scientific research to solve the current issues of prevention of NCD among the population. Today, the Republic has well-developed policy and legislative mechanisms for solving the problem of non-communicable diseases [3.5].

A total of 10,317 military respondents aged 18-70 and above participated in the survey. The distribution of demographic characteristics aligns with the population structure of the Republic of Uzbekistan, and accordingly, the sample was representative. Table 3.5 presents the general socio-demographic profile (characteristics) of the respondents. The survey also examined the level of awareness among the population of our country regarding the measures being implemented to maintain a healthy lifestyle, as well as the opinions of military personnel on whether these measures are sufficient.

**Table№1.**

### **Socio-Demographic Indicators of Visitors to Military Medical Units**

<b>Group</b>	<b>Parameters</b>	<b>Total Respondents, n (%)</b>	<b>Average Age (M±m)</b>	<b>Comparison of the Average Age Within the Group</b>
--------------	-------------------	---------------------------------	--------------------------	---

	<b>Total Respondents</b>	10317 (100%)	47,37±20,51	
<b>Place of Residence</b>	Tashkent city	4852 (47,03%)	45,3±18,8	p<0,05
	Tashkent region	5465 (53,0%)	49,3±19,2*	
Social status	<b>Active Duty Military Personnel</b>	8467 (82,0%)	44,3±10,8	p<0,01
	<b>Retired Reserve Military Personnel</b>	1850 (18,0%)	59,3±13,8**	
Education	<b>Higher Education</b>	5756 (56,0%)	48,3±10,8	p<0,01
	<b>Secondary Education (College)</b>	2904 (23,15%)	52,0±11,2	
	<b>Secondary Education (School)</b>	1657 (16,06%)	53,3±10,5**	
Marital status	Married	8968 (87,0%)	54,3±12,5**	p<0,01
	Single	1349 (13%)	40,2±13,3	

*Note:* <0.05 when compared with military respondents from Tashkent region;

\*\* - <0.01 when compared with active duty military respondents;

\*\* - <0.01 when compared between the data of military respondents.

**Table№2**

**Social Status of Military Respondents**

Question	Social Parameters	n	%
<b>Social Activity</b>			
What is your level of social activity?	<b>Socially passive</b>	1022	10,0
	<b>Moderately socially active</b>	5254	51,0
	<b>Socially active</b>	3343	32,40
	No answer	698	6,80
<b>Social Protection</b>			
If you need help, how is it provided by the state?	<b>Socially protected</b>	9935	96,30
	<b>Not socially protected</b>	-	0

	No answer	382	3,70
<b>Social Integration</b>			
How much attention/interest do people pay to the activities you're engaged in (e.g., work/interests)?	Quite a lot	7238	70,16
	Average	2158	20,91
	Little	523	5,0
	No answer	398	3,80
<b>Financial Status</b>			
How easy or difficult is it for you to make payments at the end of the month?	Difficult	823	7,90
	Not difficult	9114	88,33
	No answer	380	3,70

**Note:** n – number of military respondents; m/y – no data available.

An analysis was conducted to determine the social status of the respondents and their position in society, including their social activity, protection status, social integration, and financial status. Using survey questions, no significant difference was found between the military respondents from Tashkent city and region in terms of visiting military medical units. Almost both groups of respondents underwent medical examinations at the same time. However, a difference in age was observed between the military respondents from Tashkent region (49.3±19.2 years) compared to Tashkent city (45.3±18.8 years,  $p < 0.05$ ). The categories and social statuses mentioned can be used in a standardized manner within social surveys. Cluster analysis was performed to classify respondents based on their social activity, protection status, integration level, and financial status, which are part of their socio-economic status. In this analysis, clusters were identified based on a single distribution criterion.

**According to the analysis, all military respondents were divided into four groups:**

- Low socio-economic status – 11.9% (n=1225)
- Medium socio-economic status – 64.23% (n=6627)\*\*\*
- High socio-economic status – 21.0% (n=2172)
- Very high socio-economic status – 2.90% (n=293)

A stratification in terms of income levels was also observed within the socio-economic status groups. For example, participants with average income were classified under medium socio-economic status – 64.23% (n=6627), while those with lower income were classified under low socio-economic status – 11.9% (n=1225), indicating a higher index of socio-economic status ( $p < 0.001$ ). Socio-economic status can potentially be evaluated based on the categories of military personnel, which may influence their ability to implement healthy lifestyle measures, treat diseases, and take preventive actions.

**Table №3**

**Military Respondents' Self-Assessment of Their Health**

Indicators	n	%
Health Status (How would you rate your health?)		
<b>Good</b>	3584	24,70

<b>Satisfactory</b>	3755	45,40
<b>Poor</b>	2269	21,60
<b>No answer</b>	709	8,30
<b>Ordinary life limited due to health problems</b>		
<b>Severely limited</b>	722	7,0
<b>Moderately limited</b>	1805	17,50
<b>No limitations</b>	7375	71,50
<b>No answer</b>	415	4,0

In the online survey conducted to assess the military respondents' health self-assessment literacy, the following responses were recorded: 24.7% of respondents rated their health as good, 45.4% rated it as satisfactory, 21.6% considered their health to be poor, and 8.3% did not provide any data. These results reflect the varying perceptions of health status among the military personnel surveyed.

#### **Prevalence of Various Organ and System Diseases Among Military Respondents**

During the study, cardiovascular diseases were identified in 4,256 military respondents (41.25%). The most prevalent cardiovascular conditions included hypertension in 1,110 respondents (10.76%), ischemic heart disease in 1,265 (12.26%), arrhythmia in 620 (6.0%), chronic heart failure in 687 (6.60%), and other cardiovascular diseases in 574 (5.56%). These findings highlight the significant burden of cardiovascular health issues among military personnel, which could have implications for their overall health and operational readiness. Respiratory system diseases (RTD) were recorded in 1,279 individuals (12.40%) among the military respondents. The specific RTDs observed included bronchial asthma in 126 (1.22%), chronic obstructive pulmonary disease (COPD) in 155 (1.50%), chronic bronchitis in 820 (7.94%), and other respiratory diseases in 178 (1.72%). Gastrointestinal system diseases were identified in 2,320 individuals (12.6%) during the study. The diagnoses included gastric and duodenal ulcers in 192 (1.86%), chronic gastroduodenitis in 232 (2.25%), chronic cholecystitis in 908 (8.80%), cholelithiasis in 283 (2.74%), chronic colitis in 220 (2.13%), pancreatitis in 418 (4.0%), and other gastrointestinal diseases in 67 (0.65%).

Among the military respondents who visited the medical facilities, 1,045 individuals (9.9%) were diagnosed with kidney and urinary tract diseases. The diagnoses were distributed as follows: chronic pyelonephritis in 298 (2.88%), chronic glomerulonephritis in 32 (0.31%), urolithiasis in 550 (5.33%), chronic cystitis in 120 (1.16%), and other kidney and urinary tract diseases in 45 (0.44%). Endocrine system diseases were recorded in 895 individuals (8.70%), including type 2 diabetes mellitus in 420 (4.07%), thyroid diseases in 335 (3.25%), and other endocrine system diseases in 140 (1.36%). Various types of oncological diseases were recorded in 259 (2.51%) military respondents, either in their medical history or during the study. These

included gastrointestinal carcinoma (gastric and colorectal cancer) in 65 (0.63%), prostate adenocarcinoma in 42 (0.40%), lung cancer in 85 (0.82%), breast cancer in 12 (0.11%), and other organ cancers in 56 (0.54%).

**Table№4**

**Prevalence of Non-Communicable Diseases (NCDs) Among Visitors to the Multidisciplinary Central Polyclinic by Gender**

<b>Diseases</b>	<b>Total Respondents, n (%)</b>	<b>Male n (%)</b>	<b>Female n (%)</b>
<b>Cardiovascular Diseases</b>	Hypertension	1110 (10,76%)	895 (8,70%) 215 (2,10%)
	Ischemic Heart Disease	1265 (12,26%)	945*** (9,16%) 320 (3,10%)
	Arrhythmia	620 (6,0%)	489 (4,74%)*** 131 (1,26%)
	Chronic Heart Failure	687 (6,60%)	521 (5,05%)*** 166 (1,55%)
	Other Diseases	574 (5,56%)	399 (3,87%)*** 175 (1,69%)
<b>Respiratory Diseases</b>	Bronchial Asthma	126 (1,22%)	99 (0,96%)*** 27 (0,26%)
	Chronic Obstructive Pulmonary Disease (COPD)	155 (1,50%)	102 (0,98%)*** 52 (0,51%)
	Chronic Bronchitis	820 (7,94%)	678 (6,57%)*** 142 (1,37%)
	Other Diseases	178 (1,72%).	132 (1,30%)*** 46 (0,44%)
<b>Gastrointestinal Diseases</b>	Gastric and Duodenal Ulcer Disease	192 (1,86%)	142 (1,38%)*** 57 (0,48%)
	Chronic Gastroduodenitis	232 (2,25%)	142 (1,38%)*** 90 (0,87%)
	Chronic Cholecystitis	908 (8,80%)	782 (7,60%)*** 126 (1,22%)

	<b>Cholelithiasis</b>	283 (2,74%)	163 (1,58%)	120 (1,16%)
	<b>Chronic Colitis</b>	220 (2,13%)	136 (1,32%)**	84 (0,81%)
	<b>Pancreatitis</b>	418 (4,0%)	370 (3,58%***	48 (0,41%)
	<b>Other Diseases</b>	67 (0,65%)	52 (0,50%***	15 (0,15%)
<b>Urinary System Diseases</b>	<b>Chronic Pyelonephritis</b>	298 (2,88%)	120 (1,16%)	178 (1,72%)*
	<b>Chronic Glomerulonephritis</b>	32 (0,31%)	13 (0,126%)	19 (0,18%)
	<b>Urolithiasis</b>	550 (5,33%)	369 (3,58%***	181 (1,75%)
	<b>Chronic Cystitis</b>	120 (1,16%)	20 (0,19%)	100 (0,96%***
	<b>Other Diseases</b>	45 (0,44%)	21 (0,20%)	24 (0,24%)
<b>Endocrine System Diseases</b>	<b>Diabetes Mellitus</b>	420 (4,07%)	310 (3,0%***	110 (1,06%)
	<b>Thyroid Diseases</b>	335 (3,25%)	155 (1,50%)	180* (1,75%)
	<b>Other Diseases</b>	140 (1,36%)	95 (0,92%***	45 (0,44%)
<b>Oncological Diseases</b>	<b>Gastrointestinal Cancer (Gastric and Colorectal)</b>	65 (0,63%)	42 (0,41%)	23 (0,22%)
	<b>Prostate Adenocarcinoma</b>	42 (0,40%)	-	42 (0,40%)
	<b>Breast Cancer</b>	12 (0,11%)	12 (0,11%)	-

	Other Cancers	Organ	56 (0,54%)	32 (0,31%)*	24 (0,23%)
--	------------------	-------	------------	----------------	------------

Thus, among all military respondents who attended medical examinations, cardiovascular diseases (CVDs) ranked first in terms of prevalence, accounting for 41.25% ( $p < 0.01$ ). Within the category of CVDs, ischemic heart disease was the most frequently observed, comprising 12.26% ( $p < 0.01$ ). Among respiratory diseases, chronic bronchitis accounted for the largest share at 7.94% ( $p < 0.01$ ), while other systemic and organ diseases ranked third in terms of frequency of occurrence. The gender difference showed that all military respondents with NCDs were predominantly male, which can be attributed to the fact that the military population is primarily composed of men ( $p < 0.001$ ).

## REFERENCES

1. *Oganov R. G., Maslennikova G. Ya.* Cardiovascular diseases in the Russian Federation in the second half of the 20th century: trends, possible causes, prospects. *Kardiologiya*. 2000; 6: 4–8. Russian (*Оганов Р. Г., Масленникова Г. Я.* Сердечно-сосудистые заболевания в Российской Федерации во второй половине 20 столетия: тенденции, возможные причины, перспективы. *Кардиология*. 2000; 6: 4–8).
2. *Eliseev E. V.* Behavior of Central hemodynamics and myocardial contractile function depending on the orientation of the training process. *Teoriya i praktika fizicheskoi kul'tury*. 2003;1: 39–41. Russian (*Елисеев Е. В.* Поведение центральной гемодинамики и сократительной функции миокарда в зависимости от направленности тренировочного процесса. *Теория и практика физической культуры*. 2003; 1: 39–41).
3. Report on the state of health in Europe. WHO regional publications. European series. No. 97. 2002. 165.
4. *Seluyanov V. N., Seluyanov V. N., Rybakov V. V., Feofilaktov V. V.* Modeling of adaptation processes in myocardium in athletes. In: Ubiilee collection of works of RGAFK scientists dedicated to the 80th anniversary of the Academy. Moscow: RGAFK Publisher; 1998; 3: 163–7. Russian (*Селуянов В. Н., Рыбаков В. В., Феофилактов В. В.* Моделирование адаптационных процессов в миокарде у спортсменов. В кн.: Юбилейный сб. тр. ученых РГАФК, посвящ. 80-летию академии. М.: РГАФК; 1998; 3: 163–7).
5. *Hillis W. S.* ABC of sports medicine: sudden death in sport. *BMJ*. 1994; 1 (309): 657–60).