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FREQUENCY AND CLINICAL EPIDEMIOLOGICAL DESCRIPTION OF MAIN BRONCHOPULMONARY DISEASES IN THE MILITARY

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ABSTRACT

Studying the prevalence of major bronchopulmonary diseases is one of the important indicators determining the health of the population, including among the military. The data obtained as a result of a number of studies have different indicators, which are related to living and working conditions, the methodology of the data obtained, diagnostic methods and the availability of preventive measures. The purpose of our study; to study the frequency of detection and clinical epidemiological characteristics of major bronchopulmonary diseases in the military. In doing so, we set ourselves the task of studying community-acquired pneumonia, chronic nonspecific lung diseases (chronic bronchitis, chronic obstructive pulmonary disease, bronchial asthma) among the military. In order to obtain complete information about the main symptoms and course of the diseases, prospective studies were conducted in patients treated in 2023. For this, 273 servicemen from the Tashkent Central Military Clinical Hospital were recruited and divided into the following age groups: under 29 years old, 30-39 years old, 40-49 years old, and 50 and older. People aged 60 and 70 were not divided into a separate group due to the low number of participants in the study.

Of these, 33.7% (92) were relatively healthy servicemen with no pulmonary diseases, 33.7% (92) were diagnosed with community-acquired pneumonia, and 32.6% (89) with chronic nonspecific pulmonary diseases (CNPD).

Key words: military personnel, chronic non-specific lung diseases, bronchitis, bronchial asthma, COPD.

INTRODUCTION

In practice, in countries around the world, patients in need of medical care from the respiratory group account for 25% of the total number of cases. Among them, 10% are hospitalized with a diagnosis of pneumonia. [1. P. 23-26.; 3.p.-

696.]. However, the mortality rate for pneumonia and viral pneumonia is 131st, with 16.02 deaths per 100,000 population, while in Uzbekistan this figure was 4,574 cases or 2.83%. [1]COPD is the third leading cause of death, and according to the data provided in the literature in 2018, 3.23 million people died from this disease. 80% of deaths occurred in people under 70 years of age living in low- and middle-income countries.

According to the UN, COPD is the seventh leading cause of death, and in high-income countries, 70% of COPD cases are caused by smoking. In low- and middle-income countries, 30–40% of COPD cases are caused by smoking, but the leading risk factor is indoor air pollution. Smoking is one of the main risk factors for respiratory diseases in the military, and the fact that environmental conditions play a major role in studying the problem is important.

The prevalence of pneumonia among military personnel in the CIS countries is 0.02-0.03%, and among conscripts it is 0.05-0.06%, which further underscores the urgency of the problem [3,4]. Bronchopulmonary diseases represent a significant health concern in military populations, affecting both operational readiness and long-term health outcomes of service members. These diseases encompass a wide range of conditions, including chronic obstructive pulmonary disease (COPD), asthma, pneumonia, and acute bronchitis, among others. Military personnel, due to their unique working environments and high physical demands, are particularly vulnerable to respiratory diseases, which can be exacerbated by factors such as exposure to environmental pollutants, extreme weather conditions, physical stress, and the use of protective gear.

Understanding the frequency and clinical epidemiological characteristics of these diseases is critical for the development of effective preventive and therapeutic strategies within military health systems. Despite the growing body of research in civilian populations, there is a need for more detailed studies specifically focusing on the military context, where the incidence and impact of bronchopulmonary diseases may differ significantly. This study aims to provide a comprehensive description of the prevalence and clinical manifestations of major bronchopulmonary diseases within the military, examining factors such as age, gender, service branch, and exposure to risk factors. By analyzing these aspects, this research will contribute to a better understanding of how these diseases affect the health and operational efficiency of military personnel, as well as inform policies and practices aimed at minimizing their impact.

[1] https://www.worldlifeexpectancy.com/ru/uzbekistan-influenza-pneumonia

Purpose of the study. The purpose of this study is to assess the frequency and clinical epidemiological characteristics of the most common bronchopulmonary diseases in military personnel. This research aims to identify the prevalence, risk factors, and clinical presentations of major respiratory conditions, such as chronic obstructive pulmonary disease (COPD), asthma, pneumonia, and bronchitis, within a military population. Additionally, the study seeks to explore the impact of these diseases on the health and operational readiness of military personnel, examining factors such as age, gender, service branch, environmental exposures, and lifestyle factors. By obtaining a comprehensive understanding of the frequency and distribution of bronchopulmonary diseases in the military, the study aims to contribute to the development of targeted prevention and management strategies that can enhance the well-being and performance of service members. Furthermore, this research will provide valuable data for military healthcare providers to optimize treatment protocols and early detection methods for respiratory conditions within this specific demographic.

Practical part. The incidence of community-acquired pneumonia is significant among organized groups, as well as among all military personnel in the world. [4.p. 268; 7.p. c70e4f655aff21 e999de7fc2b2f]. Such groups also include other groups, such as kindergartens, orphanages, boarding schools, nursing homes, closed groups; prisons, colonies, military units. [2.p. 176 p.; 3.p. 252]. In this situation, it is important to constantly monitor and control the management of lung diseases. [72.p. 6724; . 73.p. 17 .]. The disease ahead in receiving organization works disease together with prevention take will go . 2017 during from the hospital external pneumonia indicator decrease observed . [1 . p. 4 - 21.]. On call military in 2010 between morbidity from 69.6 ‰ to 2018 decreased to 25.5% . However , in 2018, the military contract in service those who were between illness increased observed.

In the retrospective analysis, we can see in table 1 that the main bronchopulmonary diseases of the lungs have increased year by year.

Table 1. Central military in the hospital in 2018-2022 main bronchopulmonary to get sick with diseases retrospective analysis of the situation

Type of disease	Code	2018, abs	2019, abs	2020, abs	2021, abs	2022, abs
From the hospital except pneumonia	J 15.18	44	71	103	20	166
Chronic bronchitis	J 40,41,42	58	85	18	29	48
Bronchial asthma	J 45	25	32	14	25	23
Chronic your lungs obstructive illness	J 44	15	19	19	25	27

Look at the table 1 and there is 5 years as we are during illness condition from the year per year increasing went .

Main bronchopulmonary of diseases illness status 2018-2022 to hospital statistics according to retrospective analysis was conducted . Analysis passing going five annual during military between the most many in case from the hospital except for pneumonia, 166 people in 2022 observed in 2019 chronic bronchitis 85 people and bronchial asthma 32 people increase observed ; By 2022 come chronic your lungs obstructive of the disease increase 27 observed in case ($p < 0.0001$). With this disease , one in line from the hospital apart from pneumonia and COPD stable in a way increased : 2018-44; 15 people , 2019 - 71; 19 people , 2020 - 103; 19 people , 2021 - 20; 25 people , 2022 - 103; 27 matches respectively . ($r < 0.0001$). (see table 1).

This to search of diseases main symptoms , course about complete information to take for in 2023 treated in patients prospectus inspections was conducted . His for Tashkent central 273 people in the military clinical hospital military attraction done and they are as follows youth to the group divided into : under 29 years old , 30-39 years old, 40-49 years old and 50 and from it adults 60 and 70 year olds in search less observed due to reason separately to the group not separated. Lungs in 33.7% (92) of them system diseases exists not relative healthy military personnel , 33.7% (92) . from the hospital except pneumonia and 32.6% (89) chronic nonspecific lung (Fig 1.)

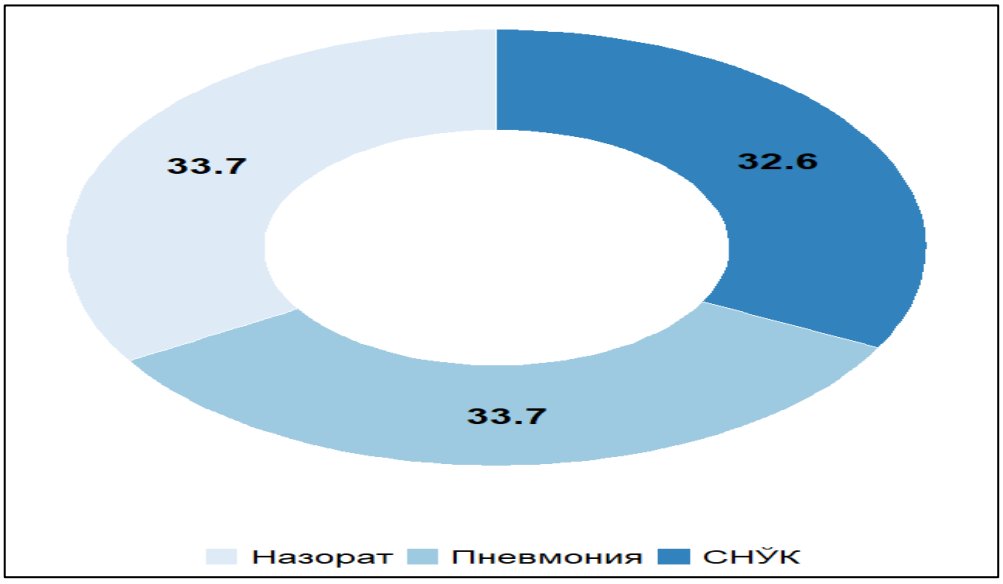

Figure 1. Studied group structure

Study groups titles divided according to 3.2. in the table apparently as new as it is invited between from the hospital pneumonia was observed in 41.8 %, sergeants 31.5%, officers 37.2%, retired military personnel 20.9% and SNOC this to indicators suitable 9.1%, 38.4%, 33.3%, 44.8% were observed respectively .

Newly invited between observation of pneumonia outside the hospital remaining military to those in positions of authority relatively two equal excessive observation and SNO'K from the service 44.8% of those who left observation this positions activity or the military life relationship with the type the existence confirms (r<0.01) (table 2.).

Table 2. Study groups titles according to classification

	Groups			
Titles	control , N - 92	pneumonia, N - 92	SNOW, N - 89	Total : N - 273
new invited	27 (49.1 %)	23 (41.8 %)	5 (9.1%)	55 (20.1%)
sergeants	22 (30.1 %)	23 (31.5%)	28 (38.4%)	73 (26.8%)
officers	29 (37.2 %)	23 (29.5%)	26 (34.2%)	78 (28.6%)
From the service those who left	14 (20.9 %)	23 (34.3%)	30 (44.8%)	67 (24.5%)

The following the table picture in the form of when we saw changes exactly distinction possible.

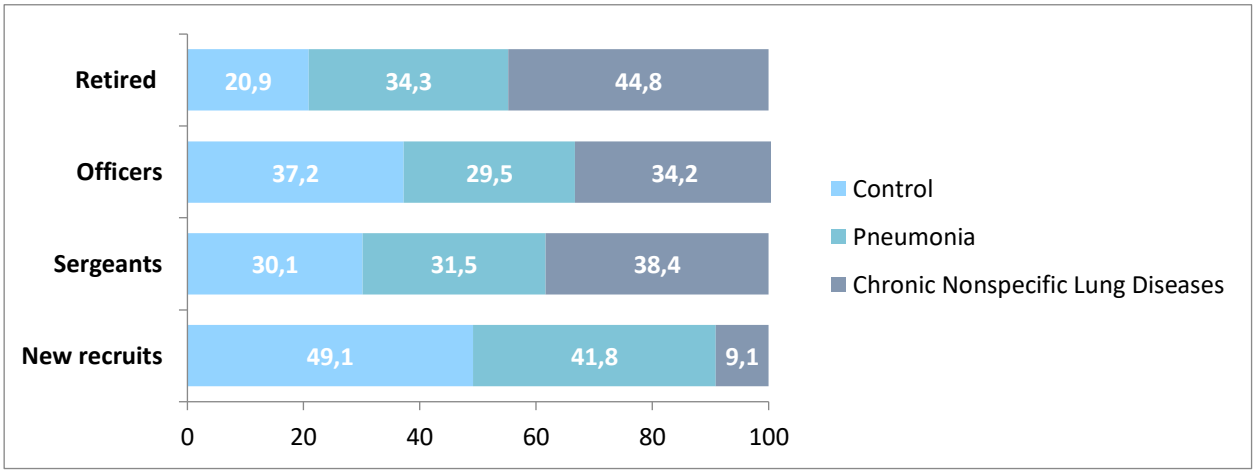

Figure 2. Study groups titles according to classification

As we can see in picture 3.2 all in military ranks average in the account taken

Study groups age and illness according to classification Table 3

Youth groups	Groups			Total N – 273	p- value
	control , N – 92	pneumonia, N - 92	SNOW, N - 89		
<29	35 (38.0%)	32 (35%)	8 (9.0%)	75	<0.001

Youth groups	Groups			Total N – 273	p- value
	control , N – 92	pneumonia, N - 92	SNOW, N - 89		
30-39	25 (27%)	22 (24%)	21 (24%)	68	
40-49	19 (21%)	24 (26%)	25 (28%)	68	
50+	13 (14%)	14 (15%)	35 (39%)	62	

Results and discussion. The military chronic nonspecific lung diseases date up to 29 years old from 3 9 % to 9.0%, i.e. 4.3 times more observed . From the hospital except for the diagnosis of pneumonia before the age of 29 was military between 3 and 5 % were observed and 2.3 times as age increases decreasing went. Soldiers under 29 years of age, the incidence of community-acquired pneumonia was 35% and the incidence of COPD was 9%, which is a 3.9-fold difference between these indicators. In the groups of 30-39 and 40-49 years of age, the incidence of both diseases was stable, indicating that there were no significant differences in these age categories. In those over 50 years of age, community-acquired pneumonia was 15%, and COPD was 39%. (Table 3.3.). This indicator shows that the risk of chronic bronchopulmonary diseases in soldiers increases significantly with increasing service experience. ($p<0.001$).

When we examined the odds ratio in all, the odds ratio (OR) for the 30-39 age group was 1.51, with a 95% confidence interval (CI) of 0.77 to 2.96, indicating no significant difference compared to the control group under 29 years of age (p-value < 0.232). In the 40-49 age group, the OR was 2.26 (95% CI: 1.13, 4.59), which was statistically significant (p-value < 0.022). At the same time, in the 50+ age group, the OR was 3.30, with a 95% CI of 1.57 to 7.25, which was statistically significant (p-value < 0.002) and indicated an increased risk of community-acquired pneumonia.

Therefore, the incidence of primary NSCLC is higher in older age groups, while the incidence of community-acquired pneumonia remains stable until the age of 50. However, there is an increased risk of community-acquired pneumonia in the 50+ age group, which may be due to age-related changes or other factors.

CONCLUSIONS:

1. Of the main bronchopulmonary system diseases, out-of-hospital pneumonia was observed in 33.7% and chronic non-specific lung diseases in 32.6% of the soldiers treated in the conditions of the Central Military Clinical Hospital.

2. newly drafted officers had a 41.8% incidence of community-acquired pneumonia, twice as high as in other military ranks ($p<0.01$).

3. Chronic bronchitis (44%), bronchial asthma (33%), chronic obstructive pulmonary disease (12%) and 33.7% of cases were observed in the distribution of chronic non-specific lung diseases.

4. A properly formalized treatment plan based on an algorithm in the military allows optimizing the primary and secondary prevention of diseases.

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