

### Abstract

**Relevance.** One of the most reliable and robust indicators of the health of military personnel is dismissal due to health reasons, it is practically not affected by external distortions, and dismissal-related nosologies are determined in hospital and subsequently approved by military medical experts.

**Intention.** Analysis of the dismissal rate due to health reasons among conscripts in the Republic of Belarus for 16 years (2003-2018).

**Methodology.** We conducted a statistical analysis of annual medical reports about the state of health and morbidity of conscripts (form N 3/MED) and annual reports about medical examination (form N 5/CVK). Dismissal rates for the entire service time and for the periods I (0-6 months), II (7-12 months) and III (13-18 months) were identified and analyzed. Dismissal-related nosologies were correlated with the codes of the International Statistical Classification of Diseases, Behavioral Disorders and Injuries, 10th revision (ICD-10).

**Results and Discussion.** The average annual dismissal rate for conscripts from the Armed Forces of the Republic of Belarus for 16 years from 2003 to 2018 amounted to  $(15.62 \pm 0.58)\%$ , including  $(8.11 \pm 0.36)\%$  in the first period of service,  $(5.24 \pm 0.28)\%$  in the II period and  $(2.27 \pm 0.09)\%$  in the III period, i.e. 51.9, 33.5 and 14.6 %, respectively in the structure of dismissal for the entire period of service. The main reasons for the dismissal of conscripts from the Armed Forces of the Republic of Belarus were mental and behavioral disorders (ICD-10 chapter V), digestive diseases (chapter XI), diseases of the musculoskeletal system and connective tissue (chapter XIII), cardiovascular system diseases (chapter IX) and skin and subcutaneous tissue diseases (chapter XII) with levels of  $(4.74 \pm 0.35)$ ,  $(2.74 \pm 0.31)$ ,  $(2.13 \pm 0.18)$ ,  $(1.80 \pm 0.30)$  and  $(0.73 \pm 0.09)\%$ , respectively. In the structure of dismissal, the rates of these diseases amounted to 77.7 %. When analyzing the leading classes, during the periods of service the military-epidemiological significance of dismissals due to mental disorders and behavioral disorders (chapter V), cardiovascular system diseases (chapter IX), skin and subcutaneous tissue diseases (chapter XII) turned out to decrease, and military-epidemiological significance of dismissals due to diseases of the digestive system (chapter XI) increased. In addition, during periods of service the number of dismissals of conscripts with certain infectious and parasitic diseases (chapter I), with injuries, poisoning and some other consequences of external causes (chapter XIX) increased. Most commonly, conscripts were dismissed from the Armed Forces of the Republic of Belarus due to diseases of the esophagus, stomach and duodenum (K20-K31 according to ICD-10), personality and behavioral disorders in adulthood (F60-F69), neurotic, associated with stress, and somatoform disorders (F40-F48), other heart diseases (pericarditis, endocarditis, etc., I30-I52) and mood disorders (affective disorders, F30-F39). In the structure of dismissal, percentages amounted to 13.7, 9.1, 6.3, 4.1 and 4.1 %, respectively; in total - 37.3 %.

**Conclusion.** The medical and statistical indicators of dismissal can help calculate the likelihood of health disorders associated with daily life and military service, and determine the strategy of the medical service in taking measures for recreation and rehabilitation of potential and actual conscripts.

**Keywords:** military medicine, armed forces, conscript soldier, adaptation, health, medical statistics, disease incidence, dismissal rate, Republic of Belarus.

### References

1. Afanas'ev V.N., Yuzbashev M.M. Analiz vremennykh ryadov i prognozirovaniye [Time Series Analysis and Forecasting]. Moskva. 2001. 228 p. (In Russ.)
2. Davydova T.E. Sostoyanie zdorov'ya i kachestvo zhizni grazhdan, prokhodyashchikh voennuyu sluzhbu po prizvu [Health status and quality of life of citizens undergoing military service on conscription] : Abstract dissertation PhD Med. Sci. Moskva. 2016. 25 p. (In Russ.)
3. Dmitrochenkov A.V. Mediko-sotsial'nye problemy uvol'nyaemosti voennosluzhashchikh po sostoyaniyu zdorov'ya i razrabotka sistemy meropriyatiy mediko-psikhologicheskoi adaptatsii k voennoi sluzhbe [Medical and social problems of the dismissal of military personnel for health reasons and the development of a system of measures for medical and psychological adaptation to military service] : Abstract dissertation PhD Med. Sci. Ryazan'. 2001. 23 p. (In Russ.)
4. Darashevich V.I., Shirko D.I. O nekotorykh aktual'nykh voprosakh pervichnoi profilaktiki sredi voennosluzhashchikh [Current issues in primary prevention among military]. *Voennaya meditsina* [Military medicine]. 2017. N 2. Pp. 77-78. (In Russ.)
5. Evdokimov V.I., Chernov D. A. Rol' nozologii v razvitiy zabolevaemosti voennosluzhashchikh po prizvu Vooruzhennykh sil Respubliki Belarus' [The role of nosologies in the development of morbidity among conscripts in the Armed forces of the Republic of Belarus]. *Voennaya meditsina* [Military medicine]. 2019. N 1. Pp. 23-32. (In Russ.)
6. Evdokimov V.I., Chernov D.A. Pokazateli psikhicheskikh rasstroistv voennosluzhashchikh po prizvu Vooruzhennykh sil i yunoshiei Respubliki Belarus' (2009-2018 gg.) [Indicators of mental disorders in conscripts of the Armed forces and young men of the Republic of Belarus (2009-2018)]. *Voennaya meditsina* [Military medicine]. 2020. N 1. Pp. 16-27. (In Russ.)
7. Evdokimov V.I., Chernov D.A., Sivashchenko P.P., Yeskou A.S. Mediko-statisticheskie pokazateli zabolevaemosti voennosluzhashchikh po prizvu Vooruzhennykh sil Respubliki Belarus' i Rossiiskoi Federatsii (2003-2016 gg.) [Medical and statistical indicators of morbidity among conscripts in Armed forces of the Republic of Belarus and Russian Federation (2003-2016)]. *Mediko-biologicheskie i sotsial'no-psikhologicheskie problemy bezopasnosti v chrezvychaynykh situatsiyakh* [Medico-Biological and Socio-Psychological Problems of Safety in Emergency Situations]. 2018. N 2. Pp. 26-50. DOI 10.25016/2541-7487-2018-0-2-26-50. (In Russ.)
8. Ishutin O.S., Smagulov N.K., Muhametzhanov A.M. Otsenka zabolevaemosti voennosluzhashchikh srochnoi sluzhby v zavisimosti ot ikh voinskoj spetsial'nosti [Assessing the morbidity of military servicemen depending on military specialties]. *Voennaya meditsina* [Military medicine]. 2012. N 3. Pp. 88-91. (In Russ.)
9. Kireev O.V. Uvol'nyaemost' voennosluzhashchikh v mirnoe vremya: metodika analiza i osnovnye statisticheskie zakonomernosti [Retirement rate of servicemen in peace time: Methodology of the analysis and basic statistical patterns] : Abstract dissertation PhD Med. Sci. Sankt-Peterburg. 1998. 24 p. (In Russ.)
10. Kobzov V.A. Profilakticheskii monitoring psikhicheskogo zdorov'ya voennosluzhashchikh, prokhodyashchikh voennuyu sluzhbu po prizvu v Sukhoputnykh voiskakh Vostochnogo voennogo okruga [Preventive monitoring of mental health of military personnel undergoing military service on conscription in the Land forces of the Eastern military district] : Abstract dissertation PhD Med. Sci. Sankt-Peterburg. 2014. 29 p. (In Russ.)

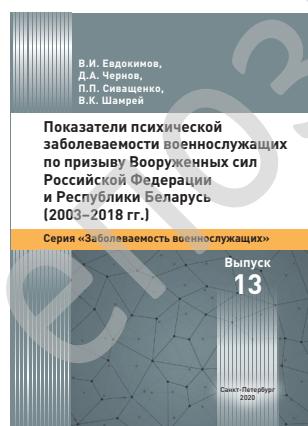
11. Korshever N.G., Sitmbetov D.A. Osobennosti adaptatsii voennosluzhashchikh, prokhodyashchikh voennuyu sluzhbu po prizvu v techenie goda [Peculiarities of adaptation of military personnel who are conscripted during the year]. *Voenno-meditsinskii zhurnal* [Military medical journal]. 2011. Vol. 332, N 6. Pp. 73–74. (In Russ.)
12. Litvishko A.A., Yanul A.N. Analiz urovnya zabolеваemosti boleznyami kozhi i podkozhnoi kletchatki u voennosluzhashchikh Vooruzhennykh sil Respubliki Belarus' [The analysis of the incidence of diseases of skin and hypodermic cellulose at the military personnel of Armed forces of Republic of Belarus]. *Voennaya meditsina* [Military medicine]. 2014. N 4. Pp. 6–9. (In Russ.)
13. Lyatos I.A., Semenov V.M., Dmitrachenko T.I. [et al.]. Parenteral'nye virusnye hepatitidy u Vooruzhennykh sil Respubliki Belarus' (sostoyanie problemy vyvayleniya voennosluzhashchikh, infitsirovannykh virusami hepatitov V i S) [Parenteral viral hepatitis in the armed forces of the Republic of Belarus (the state of the problem of identifying soldiers infected with hepatitis B and C)]. *Vestnik Vitebskogo gosudarstvennogo meduniversiteta* [Vestnik of Vitebsk State Medical University]. 2017. Vol. 16, N 3. Pp. 7–20. DOI: 10.22263/2312-4156.2017.3.7. (In Russ.)
14. Malevanets E.V. Osobennosti adaptatsii voennosluzhashchikh po prizvu v raznye sroki sluzhby [Features of adaptation of conscripts at different periods of service] : Abstract dissertation PhD Med. Sci. Moskva. 2015. 21 p. (In Russ.)
15. Skugarevskaya M.M., Sachek V. I., Skugarevskii O. A. Problemnye voprosy voenno-vrachebnoi (psikhologo-psichiatricheskoi) ekspertizy prizyvnikov [Problematic issues of military medical (psychological and psychiatric) examination of conscripts]. *Voennaya meditsina* [Military medicine]. 2012. N 2. Pp. 40–44. (In Russ.)
16. Surmach M.Yu., Otnostenie k zdrav'yu i zdorov'yu molodyykh muzhchin, prozhivayushchikh v Belarusi [Attitude to health and healthsaving behavior of young men living in Belarus]. *Voprosy organizatsii i informatizatsii zdorovookhraneniya* [Issues of organization and informatization in health care]. 2018. N 3. Pp. 42–48. (In Russ.)
17. Tarasov A.Yu. Otsenka vliyaniya osnovnykh faktorov voinskoj sluzhby na zdorov'e voennosluzhashchikh po prizvu [Assessment of the impact of the main factors of military service on the health of conscripts] : Abstract dissertation PhD Med. Sci. Irkutsk. 2012. 21 p. (In Russ.)
18. Chicherin L.P., Sogiyaynen A.A. Sostoyanie zdorov'ya podrostkov kak indikator effektivnosti sistemy meditsinskogo obespecheniya prizyva na voennuyu sluzhbu [State of health of teenagers as the indicator of efficacy of the system of medical support of conscription]. *Rossiiskii pediatricheskii zhurnal* [Russian Pediatric Journal]. 2013. N 4. Pp. 58–60. (In Russ.)
19. Yanul A.N., Silivonchik N.N., Rudoy A.S. [et al.]. Dinamika klinicheskikh, endoskopicheskikh i mikromorfologicheskikh proyavlenii pri dispepsicheskikh zhalobakh v gruppe voennosluzhashchikh odnogo iz garnizonov za period srochnoi sluzhby [Dynamics of clinical, endoscopic and micromorphological manifestations of dyspeptic complaints in the military group from one garrison for the conscription period]. *Voennaya meditsina* [Military medicine]. 2016. N 4. Pp. 46–54. (In Russ.)
20. Monahan P., Hu Zh., Rohrbeck P. Mental disorders and mental health problems among recruit trainees, U.S. Armed Forces, 2000–2012. *Medical Surveillance Monthly Report (MSMR)*. 2013. Vol. 20, N 7. Pp. 13–18.
21. UK Armed Forces mental health: Annual Summary & Trends Over Time, 2007/08–2013/14. 2014. 58 p.

Received 31.03.2020

**For citing.** Chernov D.A., Evdokimov V.I., Cheshyk I.A. Pokazateli uvol'nyaemosti po sostoyaniyu zdorov'ya voennosluzhashchikh po prizvu iz Vooruzhennykh sil Respubliki Belarus' po periodam sluzhby (2003–2018 gg.). *Mediko-biologicheskie i sotsial'no-psikhologicheskie problemy bezopasnosti v chrezvychainykh situatsiyakh*. 2020. N 3. Pp. 52–67. (In Russ.)

Chernov D.A., Evdokimov V.I., Cheshyk I.A. Dismission rates due to health reasons among conscripts in the Republic of Belarus depending on service periods (2003–2018). *Medico-Biological and Socio-Psychological Problems of Safety in Emergency Situations*. 2020. N 3. Pp. 52–67. DOI: 10.25016/2541-7487-2020-0-3-52-67

## Вышла в свет монография



Евдокимов В.И., Чернов Д.А., Сиващенко П.П., Шамрей В.К. Показатели психической заболеваемости военнослужащих по призыву Вооруженных сил Российской Федерации и Республики Беларусь (2003–2018 гг.) : монография / Воен.-мед. акад. им. С.М. Кирова, Гомельский гос. мед. ун-т, Всерос. центр экстрен. и радиац. медицины им. А.М. Никифорова МЧС России. СПб. : Политехника-принт, 2020. 89 с. (Серия «Заболеваемость военнослужащих». Вып. 13).

Тираж 100 экз. ISBN 978-5-907722-35-6.

Проведен анализ медицинских отчетов о состоянии здоровья личного состава и деятельности медицинской службы по форме З/МЕД воинских частей, в которых проходили службу около 80 % от общего числа военнослужащих по призыву Вооруженных сил России и Республики Беларусь за 16 лет (2003–2018 гг.). Нарушения психического здоровья военнослужащих по призыву соотнесли с группами (блоками) V класса болезней «Психические расстройства и расстройства поведения» Международной классификации болезней, травм и причин смерти, 10-го пересмотра (МКБ-10).

В медико-статистических видах отчетности (общей и первичной заболеваемости, нуждаемости в диспансерном наблюдении, госпитализации, трудопотерях и увольнениями по состоянию здоровья) самые выраженные показатели выявлены у военнослужащих по призыву с невротическими, связанными со стрессом, и соматоформными расстройствами (5-я группа, F40–F48 по МКБ-10) и расстройствами личности и поведения в зрелом возрасте (7-я группа, F60–F69).

Установлено, что в развитии нарушений психического здоровья военнослужащих по призыву военно-профессиональные факторы не были ведущими. Уровень общей и первичной заболеваемости психическими расстройствами во многом обусловливается макросоциальными, биологическими причинами и состоянием здоровья призывающего контингента.