
Analysis and Preventive Countermeasures on Frequently Occurring Diseases during Military Training for College Freshmen

Jingjing Chen*

Jiangsu Engineering Vocational and Technical College Nantong 226000, Jiangsu, China

**Author to whom correspondence should be addressed.*

Copyright: © 2026 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

Abstract: *Purpose:* To analyze the occurrence of frequently-occurring diseases among freshmen during military training in colleges and universities, explore the occurrence patterns of various diseases and formulate targeted prevention measures, and also incorporate relevant content on patient psychological support to improve the intervention system. *Methods:* Freshmen who participated in the 12-day military training in our college in September 2022, September 2023, September 2024, and September 2025 were selected as the research subjects. The four-year sample numbers were 2282, 2453, 2516, and 2217 respectively. The number and incidence of common diseases during the military training were counted, the causes of the disease were analyzed, and preventive countermeasures and psychological support measures were proposed. *Results:* The total incidence rate of multiple diseases during the four-year military training for freshmen was 18.36%, among which the highest incidence rate of upper respiratory tract infection was 5.28%. The overall incidence rate will be the highest in 2024 and the lowest in 2025. The incidence of trauma and heat stroke among male freshman is higher than that among females ($p < 0.05$); dysmenorrhea is common among female freshman, whereas no such cases in male freshmen due to their physiological characteristics; there is no significant difference in the incidence rates of other diseases between genders ($p > 0.05$). *Conclusion:* The incidence of multiple diseases during the military training of college freshmen is affected by various factors such as environment, physical fitness, and protective measures. Comprehensive intervention such as improving prevention mechanisms, strengthening health education, implementing protective measures, and strengthening psychological support can effectively reduce the incidence of multiple diseases and ensure the physical and mental health of freshmen during military training.

Keywords: College freshmen; Military training; Frequently occurring diseases; Incidence; Preventive measures; Psychological support

Online publication: January 26, 2026

1. Introduction

Military training is an important part of the education for college freshmen after they enroll. It can cultivate the freshmen's

sense of discipline and ability to withstand stress. However, the high-intensity training, unfamiliar environment, and changes in daily-schedule and diet during military training make freshmen prone to various diseases, which not only affects the military training process, but may also have adverse effects on the physical and mental health of freshmen^[1,2]. In recent years, health protection issues during military training for freshmen have gradually attracted attention from universities and medical departments. Clarifying the types and occurrence patterns of common diseases during military training and formulating scientific and effective preventive strategies have become the key to improving the level of health protection during military training. At the same time, freshmen are prone to anxiety, irritability and other negative emotions when facing the pressure of military training and physical discomfort. The lack of targeted psychological support may increase the physical and mental burden and affect the recovery process^[3]. Based on this, this study conducts a statistical analysis of the occurrence of common diseases during the military training of freshmen in our college from 2022 to 2025, and proposes preventive countermeasures and psychological support measures based on the causes of the disease, providing a reference for optimizing health protection during military training, and helping to improve the military training experience and health protection capabilities of freshmen.

2. Materials and methods

2.1. General information

Freshmen who participated in military training in our college from September 2022 to September 2025 were selected as the research subjects. The four-year samples numbers were 2282, 2453, 2516, and 2217 respectively, including 5528 males and 3940 females, aged from 17 to 20 (18.35 ± 0.62) years old.

2.1.1. Inclusion criteria

- (1) Participate in the 12-day military training of the year;
- (2) Clear consciousness and able to cooperate with health information collection;
- (3) Voluntarily participate in the relevant data statistics of this study.

2.1.2. Exclusion criteria

- (1) Severe organic diseases have been diagnosed before military training;
- (2) Early withdrawal due to special reasons during military training;
- (3) Refusal to provide relevant health information.

2.2. Method

A military training medical support team is established, a temporary medical point is set up at the military training site, and professional medical staff are arranged to be on duty throughout the entire process. New students who were not feeling well during the military training are promptly treated and reasonable medical measures are taken. Information such as gender, age, time of onset, type of illness, triggers, and treatment methods are recorded in detail for each patient. Summarize the incidence data over the past four years, count the number of cases and incidence rates of various common diseases, and compare the occurrence of various diseases by year.

2.3. Observation indicators

Statistics were made on the number and incidence of common diseases such as heat stroke, hypoglycemia, trauma, sunburn, dysmenorrhea, acute gastroenteritis, and upper respiratory tract infection during the four-year military training period for freshmen.

2.4. Statistical methods

Data were analyzed using SPSS24.0. *t*-test for measurement data; χ^2 test for count data. $p < 0.05$ represents significant difference.

3. Results

3.1. Statistics on the occurrence of common diseases during the four-year military training period for freshmen

The total incidence rate of multiple diseases during the four-year military training period for freshmen was 18.36%, with the highest incidence rate of upper respiratory tract infections being 5.28%. The total incidence rate will be the highest in 2024 and the lowest in 2025. See **Table 1** for details.

Table 1. Statistics on the occurrence of common diseases during military training for college freshmen from 2022 to 2025 [n (%)]

Year	n	Heatstroke	Hypoglycemia	Trauma	Sunburn	Dysmenorrhea	Acute Gastroenteritis	Upper respiratory tract infection	Total occurrence (occurrence rate %)
2022	2282	35 (1.53)	26 (1.14)	92 (4.03)	68 (2.98)	42 (1.84)	15 (0.66)	118 (5.17)	396 (17.35)
2023	2453	48 (1.96)	32 (1.30)	108 (4.40)	76 (3.10)	51 (2.08)	19 (0.77)	135 (5.50)	469 (19.12)
2024	2516	52 (2.07)	34 (1.35)	115 (4.57)	82 (3.26)	55 (2.19)	21 (0.83)	142 (5.64)	501 (19.91)
2025	2217	38 (1.71)	25 (1.13)	85 (3.83)	65 (2.93)	40 (1.80)	14 (0.63)	105 (4.74)	372 (16.78)
Total	9468	173 (1.83)	117 (1.24)	400 (4.22)	291 (3.07)	188 (1.99)	69 (0.73)	500 (5.28)	1738 (18.36)

3.2. Comparison of the occurrence of common diseases in different genders

The incidence of trauma and heat stroke among male freshman is higher than that among females ($p < 0.05$); dysmenorrhea is common among female freshman, but there are no such cases for males due to their physiological characteristics; there is no significant difference in the incidence rates of other diseases between genders ($p > 0.05$). See **Table 2**.

Table 2. Comparison of the occurrence of common diseases in different genders

Year	n	Heatstroke	Hypoglycemia	Trauma	Sunburn	Dysmenorrhea	Acute Gastroenteritis	Upper respiratory tract infection	Total occurrence (occurrence rate %)
Male	5528	119 (2.15)	69 (1.25)	283 (5.12)	169 (3.06)	0 (0.00)	44 (0.79)	292 (5.28)	976 (17.66)
Women	3940	54 (1.37)	48 (1.22)	117 (2.97)	122 (3.10)	188 (4.77)	25 (0.63)	208 (5.28)	762 (19.34)
χ^2 value	-	7.845	0.017	26.276	0.012	269.116	0.829	0.000	4.356
<i>p</i> value	-	0.005	0.897	0.000	0.913	0.000	0.363	0.995	0.037

4. Discussion

The occurrence of frequently-occurring diseases during the military training of college freshmen is affected by a combination of factors, which has a negative impact on the physical and mental health of freshmen and the process of military training. It is very important to do a good job in the analysis and prevention of frequently-occurring diseases. This

study found through statistical analysis of incidence data during four years of military training that the incidence rates fluctuated in different years. The incidence rate was the highest in 2024, which may be related to the high temperature and slightly greater training intensity in September of that year. The incidence rate was the lowest in 2025, which is speculated to be related to the early implementation of preventive measures and the strengthening of medical security in that year. This result shows that environmental factors and safeguard measures have a direct impact on the incidence of multiple diseases.

Judging from the occurrence of various diseases, the incidence rate of upper respiratory tract infections is the highest. This is because freshmen come from different areas and gather together to easily cause cross-transmission of viruses. During military training, irregular daily-schedule and physical fatigue lead to reduced immunity, making it easy for viruses to invade and cause infection. The incidence of trauma ranks second, mainly abrasions and soft tissue injuries. This is mostly due to irregular movements and lack of physical coordination in the early stages of military training for freshmen. In addition, there are safety hazards at the training venue and inadequate wearing of protective equipment. The incidence of trauma among male freshmen is higher, which may be related to their higher enthusiasm for training and larger range of movements. The higher incidence of sunburn is mainly due to the fact that sunlight exposure is so strong in September, freshmen lack awareness of sun protection, fail to take effective sun protection measures, and their skin is damaged by ultraviolet rays after long-term outdoor training. Dysmenorrhea only occurs in female freshmen. It is often caused by factors such as a sudden increase in exercise, abdominal cold, mental stress, etc. during military training, which affects the training participation and physical condition of female freshmen. Although the incidence of heat stroke is not high, the risk is high. It mainly occurs during training during high-temperature periods. It is related to the poor heat tolerance of freshmen, lack of timely replenishment of water, and lack of reasonable adjustment of training intensity. Hypoglycemia is mostly caused by insufficient breakfast intake and excessive training consumption among freshmen, while acute gastroenteritis is related to poor dietary hygiene, overeating, or cold exposure^[4,5].

In view of the above-mentioned causes, preventive measures need to be formulated from many aspects. First of all, preliminary preparations should be strengthened. A comprehensive physical examination should be conducted on freshmen before military training. Freshmen who are not suitable for high-intensity training should be screened out and given appropriate arrangements. At the same time, health education should be carried out to explain the prevention knowledge of common diseases during military training, emergency treatment methods, and precautions such as sun protection, hydration, refrain from consumption of cold or iced beverages, and avoid being exposed to rain, so as to enhance the freshmen's self-protection awareness. Secondly, we must optimize the organization and management of military training, reasonably arrange training time, avoid hot periods, scientifically adjust training intensity, follow the principle of gradual progress, and avoid excessive physical fatigue of new entrants; improve training venue facilities, investigate safety hazards, equip new students with qualified protective equipment, standardize training movement guidance, and reduce the occurrence of trauma. Furthermore, it is necessary to strengthen logistics support, ensure dietary hygiene and safety, provide nutritionally balanced meals, remind freshmen to eat regularly, avoid fasting training, and appropriately supplement candies, chocolate, etc. during training breaks; set up water replenishment points at the training venue to provide sufficient drinking water, electrolyte drinks, and brown sugar water to prevent heatstroke and hypoglycemia; provide sufficient sunscreen and mosquito repellent products, and provide necessary physiological care products and resting places for female freshmen^[6].

During the military training period, freshmen face physical discomfort and training pressure, which can easily lead to negative emotions such as anxiety, irritability, and helplessness. Lack of psychological support may aggravate their emotions and affect their recovery and training mentality. Therefore, psychological support needs to be throughout the entire military training process and the systematic nature of psychological preventive measures must be strengthened. Before military training, psychological adaptation lectures should be organized, and psychological professionals can be invited to explain stress coping skills and emotional adjustment methods to help freshmen build their psychology in advance and reduce their fear of the pressure of military training. Establish psychological files for freshmen, identify

freshmen with weak psychological stress resistance through preliminary questionnaires, arrange counselors and psychological committee members to focus on them, conduct regular one-to-one communication, and relieve negative emotions in a timely manner. During the military training process, counselors and instructors should pay attention to humanistic care, avoid using simple and crude training and management methods, and give more encouraging comments to help new students build training confidence. For new entrances who experience physical discomfort, in addition to clinical diagnosis and treatment, they must also provide psychological comfort, inform them that physical discomfort is a common phenomenon during military training, guide them to view the disease correctly, and avoid the psychological burden caused by excessive worry. At the same time, set up a peer support system and establish mutual aid groups based on classes or dormitories to encourage freshmen to care for each other and share their feelings to form a positive psychological support atmosphere; for freshmen who are unable to participate in training due to physical reasons, avoid inferiority complex and encourage them to participate in auxiliary work within their capabilities, such as material sorting, attendance records, patient registration, etc., to enhance their sense of belonging^[7,8]. In addition, relaxed group activities can be organized during military training, such as psychological games, singing competitions, etc., to relieve training fatigue, adjust the psychological state, and help freshmen engage in military training with a positive attitude. Medical security personnel and counselors should pay close attention to the physical health and mental state of freshmen, provide timely psychological counseling to freshmen who are feeling unwell, listen patiently to their appeals, explain the recoverability of the illness, and ease their anxiety; create a positive military training atmosphere through collective activities, peer assistance, etc., to help freshmen relieve stress and maintain a good mental state.

In the process of promoting preventive measures, a complete monitoring and feedback model must be established. Medical support personnel will be on duty throughout the entire process to receive sick students in a timely manner and record the incidence. Data will be summarized and sorted out regularly and preventive measures will be adjusted for high-incidence diseases. Feedback channels will be opened so that new students can provide timely feedback on training, diet and other issues, thereby quickly optimizing support services. At the same time, it is necessary to strengthen the training of medical security personnel to improve their diagnosis and treatment standards, emergency response capabilities and psychological counseling levels to ensure that various prevention and intervention measures are effective. It should be noted that the prevention of common diseases is inseparable from the collaborative efforts of multiple parties. Only the joint efforts of universities, medical security departments, counselors, and freshmen themselves can achieve better results. Colleges and universities need to pay close attention to health security issues during military training, increase investment in resources, and improve security facilities; medical security departments must improve service levels and accurately implement diagnosis, treatment, and preventive measures; counselors must pay close attention to the physical and mental conditions of freshmen and communicate and coordinate; freshmen must enhance their awareness of self-protection, actively cooperate with safeguard measures, regulate their own behavior, and reduce the occurrence of diseases.

Generally speaking, the incidence of common diseases during the military training period of college freshmen is not low. Upper respiratory tract infections and trauma are more common, and their occurrence is closely related to environmental conditions, training arrangements, and the status of the freshmen themselves. By strengthening early preparations, optimizing training management, strengthening the quality of medical services, improving logistical support, implementing psychological assistance, and establishing a monitoring and feedback model, comprehensive intervention measures can effectively reduce the incidence of common diseases, ensure the physical and mental health of freshmen during military training, and provide strong support for the smooth advancement of military training. These measures have strong practical promotion value and can be used for reference in military training in various colleges and universities.

About the author

Chen Jingjing (1977-), female, Han nationality, native of Nantong, Jiangsu Province, bachelor's degree, current title: Attending physician, position: Jiangsu Engineering Vocational and Technical College, research direction: general medicine.

Disclosure statement

The author declares no conflict of interest.

References

- [1] Li X, Tao F, 2025, Development of Health Risk Perception Scale for College Students' Military Training and Its Implications for Training Improvement. *Journal of Air Force Medical University*, 46(05): 616–623.
- [2] Qiu L, Xia Z, Qi R, et al., 2023, Study on the Correlation Between Resting-State fMRI Local Indicators and the Emotional State of Recruits in Military Training. *Radiology Practice*, 38(04): 406–411.
- [3] Li J, Yuan W, Yang Q, et al., 2023, Meta-analysis of Risk Factor for Military Training Injuries. *Chinese Recuperative Medicine*, 32(04): 343–349.
- [4] Cui W, She Y, Zhang L, et al., 2022, Observation on the Protective Effect of Different Sun Protection Methods on Solar Ultraviolet Rays. *Journal of Environmental Hygiene*, 12(06): 458–462.
- [5] Xie X, Zhang B, Dong W, et al., 2021, Analysis of Common Diseases in Military Training for Freshmen in North Sichuan Medical College from 2017 to 2019. *Chinese School Medicine*, 35(05): 316 + 401 + 340.
- [6] Zhu X, Niu W, Kong L, et al., 2021, Observation on the Impact of Stress Intervention on Psychological Indicators and Cortisol Levels of Recruits. *People's Military Medicine*, 64(02): 95–97 + 117.
- [7] Zhou Q, Zhou B, Yang Z, et al., 2020, Analysis of a Military Training Injury Monitoring Report in 2019. *Southwest National Defense Medicine*, 30(12): 1151–1153.
- [8] Yang W, Wang H, Zhu M, 2020, Investigation on the Incidence of New Students Attending a Hospital During Military Training at a Comprehensive University in Xinjiang. *Agricultural Reclamation Medicine*, 42(06): 537–539 + 545.

Publisher's note

Whoice Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.