



Research Paper

Descriptive analysis of health status and underlying diseases among young people in Kyrgyzstan, 2019–2023

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ABSTRACT

Introduction: Improving the health and quality of life of young people is a crucial issue in Kyrgyzstan, as they represent a significant portion of the population and the future of the country.

Aim: The aim of the study was to assess the health status and incidence of various diseases among students in Kyrgyzstan.

Material and methods: This cross-sectional research examined 1,317 medical students chosen using stratified random selection. The study included various health evaluations such as clinical examinations, anthropometric measures, body mass index (BMI) estimates, spirometry, and dynamometry.

Results and discussion: It was found that the most common diseases among students were diseases of the respiratory (22.04%) and digestive system (20.59%), as well as infectious, parasitic diseases (11.31%) and diseases of the organs of vision (11.6%). The higher prevalence of non-communicable illnesses was associated with lifestyle variables like stress, irregular nutrition, and insufficient physical activity. A reduction in muscular strength and lung function was noted, indicating diminished physical fitness levels. Comparative analysis with national health statistics revealed that students had a greater frequency of gastrointestinal and ocular disorders than the general population. Morbidity rates showed significant variations between academic years, with first-year students demonstrating reduced BMI and elevated prevalence of asthenic body types.

Conclusions: Kyrgyz medical students exhibit an increase in respiratory, digestive, and eye conditions associated with stress, poor nutrition, and lack of activity. Targeted health treatments and prevention are critical to increasing student well-being through early identification, lifestyle modifications, and greater healthcare access.

1. INTRODUCTION

In modern society, one of the significant goals of the national health and education policy is to improve the health and quality of life of children and young people. Young people in Kyrgyzstan, particularly those between the ages of 15 and 28, represent 30% of the population. Health and education policies play a pivotal role in enhancing the quality of life for young people. By addressing health concerns early, these policies can mitigate the long-term impacts of chronic diseases and mental health disorders, thereby improving job capability and overall well-being. According to Kyrgyz statistics, there are 1.6 million young people in the country, of whom 51% are men and 49% women.¹ Since young people represent a layer of the population on which the future of the country depends, issues related to their health are particularly relevant. The growth of chronic diseases, and the increase in the incidence of mental disorders, have an impact on the reduction of working capacity and quality of life.²⁻⁴ The incidence of active tuberculosis among young people was 0.31%, oncology – 0.02%, sexually transmitted infections – 0.92%, human immunodeficiency virus – 0.36%. In Kyrgyzstan, only 36.2% of young people led an active and healthy lifestyle, and only 26.1% reported engaging in sports.^{5,6}

The growth of chronic diseases and the rise in the prevalence of mental disorders adversely affect job capability and quality of life.^{7,8} Socioeconomic difficulties, stress, sub-optimal diet, and insufficient physical exercise exacerbate health consequences in Kyrgyzstan.^{8,9} These factors exacerbate the strain on the healthcare system and negatively impact demographic indicators. These causes exert pressure on the healthcare system and adversely affect demographic metrics. Deficiencies in the healthcare system, including the implementation of family medicine, inadequate finance, and restricted access to medical services, have resulted in a decrease in dispensary monitoring and preventative assessments, particularly among the youth.^{5,6,10}

Many scientists have assessed health and risk factors for chronic diseases in students and the general population. Hoffman et al.¹¹ noted that Kyrgyzstan has the highest risk of non-communicable diseases in young people, as only in adolescents 13–15 years old, the prevalence of tobacco use was 6%, and in 15–24 years old – 13.8%. The average age of smoking initiation in Kyrgyzstan was 18.3 years. Cigarettes accounted for 2.4%, smokeless tobacco for 2.4% and e-cigarettes for 2.8%. Effectiveness in non-communicable disease knowledge and behaviour change in the population following training was described in a study by Muratalieva et al.¹² Awareness of disease risk factors increased from 61% to 87%, physical activity increased from 23% to 37%, and daily walking for at least 30 minutes increased from 40% to 71%. Smoking decreased from 22% to 20%, and alcohol consumption fell from 23% to 16%. Pinchuk et al.¹³ assessed the prevalence of mental disorders and preventive measures, finding that this issue was registered in 10.69% of cases, with a loss of life years due to disability at 4.77%. The

researchers designed and implemented a training program for professionals who acknowledged the significance of the issue and the necessity for preventative strategies to mitigate and eradicate mental disorders among youth and the general populace.¹⁴

Ksajikyan et al.¹⁵ highlighted that restricted physical activity could increase the risk of non-infectious chronic diseases. Studies by Yamamoto et al.^{16,17} have shown that low body mass index (BMI) is associated with a higher risk of functional dyspepsia and irritable bowel syndrome (IBS) in young adults, particularly in females. The prevalence of IBS was 7.2% in females, in contrast to 6% in males. Overweight females had a heightened chance of getting IBS. However, no association was identified between BMI and the occurrence of IBS symptoms in males. In Jang's¹⁸ study, 67% of the 2,225 subjects exhibited no hypertension risk indicators, but 32.7% were categorised as pre-hypertensive. The pre-hypertensive cohort had risk indicators such as tobacco use, diabetes mellitus, increased waist circumference, anaemia, and heightened cholesterol and uric acid concentrations. Nunes et al.¹⁹ found heightened ocular pain and visual symptoms in students during remote learning due to the COVID-19 pandemic, associated with extended screen time, which significantly impaired cognitive function.

Despite extensive research on youth health in Kyrgyzstan, there is a paucity of studies explicitly investigating morbidity rates, physical development, and the incidence of non-communicable illnesses among medical students – a demographic subjected to significant academic stress and distinct lifestyle influences. National health statistics offer a general perspective but fail to address the particular health hazards encountered by students, including poor diet, inactivity, and mental health issues. This study examines the health condition of medical students, compares their morbidity patterns with national averages, and identifies significant risk factors that may affect their well-being. Comprehending these trends is essential for formulating targeted preventative strategies and enhancing student health programs.

2. AIM

The aim of the study was to assess demographic and medical indicators, general morbidity among medical students in Kyrgyzstan. The objectives encompassed assessing the physical development of students and examining the incidence of non-communicable diseases in this group, with comparative reference to national health statistics for contextual analysis.

3. MATERIAL AND METHODS

This study was structured as a cross-sectional epidemiological analysis evaluating the health state and physical development of medical students. A total of 1,317 students volun-

tarily engaged in the study after granting informed consent, in accordance with the ethical principles established in the WMA Declaration of Helsinki for Medical Research Involving Human Subjects.²⁰ The sample was drawn from the medical faculties of Osh State University, Jalal-Abad State University, and the Kyrgyz State Medical Academy named after I. Akhunbaev. Participants were recruited through a stratified random sampling method to ensure representativeness across different academic years and demographic backgrounds. All participating students had thorough medical assessments performed by general practitioners and medical subspecialists. The evaluations comprised a systematic interview and clinical examination to ascertain the existence of chronic and acute illnesses. Medical history was documented, and physical examinations were conducted to evaluate overall health state. The examination technique followed standardised clinical criteria to guarantee uniformity and dependability. Anthropometric data were collected to evaluate the physical development of students. Body weight was assessed using a calibrated medical scale, with students wearing light clothes. Height was assessed without footwear using a stadiometer. BMI was determined according to the formula (1):

$$\text{BMI} = \frac{\text{height (m}^2\text{)}}{\text{body weight (kg)}} \quad (1)$$

To evaluate somatotypical variations, body type classifications were established using somatoscopic and somatometric indices, categorising students into asthenic, normosthenic, and hypersthenic types. Growth retardation was determined with the formula (2):

$$\text{Retardation of height} = \frac{\text{Average height for age}}{\text{Actual height of the person}} \quad (2)$$

Muscle strength was evaluated using a calibrated dynamometer, measuring both the dominant and non-dominant hands.²¹ Lung function was assessed by quantifying the vital capacity by spirometry. The incidence of illnesses among students was assessed by the analysis of medical examination data. Disease categorisation adhered to the International Classification of Diseases, Tenth Revision (ICD-10). The morbidity rate per 1,000 people was computed for each illness group. The composition of the most prevalent illnesses was quantified in percentage terms.

The study also included a comparative epidemiological analysis by utilising national health statistics. Medical, social indicators, structure, and level of general morbidity of the population in this country. Mortality data and the most common causes of death among the residents of Kyrgyzstan were analysed, and the indicators by oblast for the period 2018–2023 were compared.²² The indicators of natural population movement: birth rate, mortality rate and population growth rate, for the period 2019–2023 (per 1,000 population) were considered. The structure of morbidity and prevalence of diseases by major classes among adults and adolescents, for the period 2019–2023 was estimated.

Official statistical reports of the World Health Organization (WHO) served as additional materials for scientific work to provide a broader public health context for interpreting the findings.²² In addition, the annual statistical data of medical institutions throughout the Kyrgyz Republic for 2019–2023, as well as the results of preventive medical examinations and assessment of physical development of students of Osh, Jalal-Abad State Universities and the Kyrgyz State Medical Academy named after I. Akhunbaev (Bishkek) were taken into account. External data sources were employed solely for a comparison analysis of morbidity rates among students against national averages, emphasising significant disparities and relevant health risk factors unique to the student demographic. To preserve the study's focus, only health indicators pertinent to student health trends were evaluated. Morbidity rates among students were analysed in relation to national averages to find notable discrepancies and relevant health risk factors. To calculate morbidity and disease prevalence rates, the indicator of the total population of the Kyrgyz Republic, which is 6.5 million people, was considered.²³ The processing and analysis of the acquired materials were conducted on a computer utilising Epi-Info software, enabling meticulous statistical assessment and precise comparison of student health data with national trends.

4. RESULTS

Among the 1,317 medical students examined, it was found that respiratory diseases were the most common among students (Table 1). This could be due to exposure to viral infections, rhinitis, tonsillitis, smoking, or other environmental factors that particularly affect young people. Second in prevalence were digestive system diseases, which could be related to irregular diet, stress and improper lifestyle typical of the student population. The index had high values due to gastritis, duodenitis, and colitis. Infection with viral, bacterial, fungal, and parasitic diseases also occupied a significant percentage, which could indicate poor hygiene or contact with sources of infection in the student environment. Visual strain associated with study activities and prolonged use of digital devices contributed to the high rate of visual diseases.²⁴ The less common classes of diseases included: kidney and bladder diseases, cardiovascular diseases and skin diseases, which ranked in the middle in terms of prevalence. Their impact on students' health is less pronounced, but also significant. Diseases and disorders of the musculoskeletal system, disorders and nervous system, diseases of the ear and glands of internal secretion were less frequent, which could speak about more specific risk factors or less pronounced manifestations in this population.

Table 2 presents the body types of students of 1st–3rd year. Almost 60% of students in the 1st year were tall with lean constitution type, but in the 3rd year, their number was less than 2 times. This could indicate that as students grew up and adapted to student life, they gained weight and

Table 1. Morbidity rates of examined students for 2024 per 1,000 examined ($n = 1,317$).

Class of diseases according to ICD-10	Abs. number	Rate per 1,000 examined	Structure of morbidity, %
Respiratory diseases	380	288.53	22.04
Diseases of the genitourinary system	78	59.23	4.52
Diseases of the digestive organs	355	269.55	20.59
Injuries and poisonings of all	43	32.65	2.49
Diseases of the eye and its appendages	200	151.86	11.60
Circulatory diseases	103	78.21	5.97
Diseases of the skin and subcutaneous tissue	125	94.91	7.25
Some infectious and parasitic diseases	195	148.06	11.31
Diseases of the nervous system	75	56.95	4.35
Diseases of the ear and mastoid process	41	31.13	2.38
Diseases of the endocrine system	32	24.30	1.86
Diseases of blood, hematopoietic organs	15	11.39	0.87
Others	82	62.26	4.76

Table 2. Distribution of students by body type.

Year	Number of students	Body types						Retardation		<23		>23	
		Asthenic cue		Normosthenic		Hypersthenic							
		Abs. n.	%	Abs. n.	%	Abs. n.	%	Abs. n.	%	Abs. n.	%	Abs. n.	%
1	411	246	59.9	129	31.4	36	8.7	336	81.8	393	95.6	18	4.4
2	225	117	52	60	26.7	48	21.3	177	78.7	183	81.3	42	18.7
3	192	51	26.6	84	43.8	57	29.6	114	59.4	138	71.9	54	28.1
Total	828	414	50	273	32.9	141	17.1	627	75.7	714	86.2	114	13.8

Table 3. Indicators of natural population movement, Kyrgyz Republic 2019-2023 (per 1,000 population).²²

Years	Number of births	Number of deaths	Natural increase
2019	26.9	5.2	21.7
2020	24	6.1	17.9
2021	22.4	5.8	16.6
2022	21.5	4.5	17
2023	20.6	4.4	16.2

moved to other categories of physique. The proportional type of body constitution was less in 1st-year students and slightly more in the 3rd year, which could be related to the natural process of maturation and stabilization of body weight. Students with small stature and broad chest were in the minority in the 1st year, but in the third year, almost 30% were recorded, indicating a tendency to gain mass and strengthen the body constitution. The number of students with low BMI values was predominant in the 1st year, but in the 3rd year, these values were in a smaller percentage, which could indicate a tendency to gain weight with age.

The dynamometry measurements indicated a decrease and weakening of muscle strength. As shown in Table 2, the physical development and health levels of the students were satisfactory. However, there is a need for measures to prevent diseases and enhance physical health and development indicators. The data presented in Table 3 indicates a slow-down in demographic growth in the country.

According to regional statistics, mortality rates gradually declined, except for 2020–2021, when COVID-19 caused a significant increase. The lowest mortality was recorded in Osh oblast in 2023, while Issyk-Kul oblast had the highest in 2020. Post-pandemic improvements in medical care, social support, and disease prevention contributed to this decline. Cardiovascular diseases remained the leading cause of death, highest in Osh oblast and lowest in Osh city. Cancer ranked second, with the highest mortality in Chui oblast and the lowest in Batken oblast in 2023. Musculoskeletal disorders were also significant but showed a decline in Osh oblast and Bishkek. Viral and bacterial infections varied by region but were not major causes of death. Mortality from respiratory and gastrointestinal diseases declined, and by 2023, COVID-19 was no longer a primary cause. Table 4 shows disease incidence by organ system from 2019 to 2023. Respiratory diseases were the most common but decreased slightly by 2023, peaking in 2021 due to COVID-19.

Table 4. Structure of morbidity in adults and adolescents, Kyrgyz Republic, 2019–2023 (%).²²

Diseases by system/year Total, %	2019 100	2020 100	2021 100	2022 100	2023 100
Respiratory diseases	22.3	28.1	28.4	28.6	27.8
Diseases of the genitourinary system	10.6	10	9.3	9.4	9.4
Diseases of the digestive organs	13.3	10.8	12.7	11.4	13.7
Injuries and poisonings of all	7.6	6.9	6.4	6.4	6.9
Diseases of the eye and its appendages	7.2	5.7	6	7.1	7.3
Circulatory diseases	6.5	5.9	4.3	4.5	4.2
Diseases of the skin and subcutaneous tissue	4.4	3.8	3.8	4.3	4
Some infectious and parasitic diseases	3.2	7.2	7.2	3.8	3.2
Diseases of the nervous system	3.3	2.8	3.2	3.3	3.1
Diseases of the ear and mastoid process	3.3	2.9	2.8	3	3.1
Diseases of the endocrine system	2.2	2.3	1.7	1.9	1.9
Diseases of blood, hematopoietic organs	2	1.6	1.5	1.8	1.7
Others	14.1	12	12.7	14.5	13.7

Table 5. Prevalence of diseases by major classes adults and adolescents, Kyrgyz Republic, 2019–2023.²²

Total	Absolute number					Per 100,000 population				
	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
	1,841,187	1,388,595	1,626,699	1,848,789	1,795,371	42,411.6	31,486	36,289.4	39,484.5	37,473.2
Some infectious and parasitic diseases	44,191	60,200	73,790	51,762	46,971	1,017.9	1,365	1,646.2	1,105.5	980.8
Novoplasms	25,692	17,998	19,856	22,208	21,849	591.8	408.1	443	474.3	456.2
Blood diseases	45,523	28,794	29,140	38,153	34,698	1,048.6	652.9	650.1	814.8	724.5
Diseases of the endocrine system	112,238	104,583	112,177	120,304	124,637	2,585.4	2,371.4	2,502.5	2,569.3	2,588.1
Mental disorders	36,576	24,485	28,967	33,393	32,989	842.5	555.2	646.2	713.2	688.8
Diseases of the nervous system	83,512	59,029	69,153	85,492	82,624	1,923.7	1,338.5	1,542.7	1,825.8	1,725.2
Diseases of the eye and its appendages	122,841	78,592	100,193	122,870	112,155	2,829.6	1,782.1	2,235.2	2,624.1	2,341.8
Diseases of the ear and mastoid process	40,225	27,035	34,886	40,747	39,366	926.6	613	778.3	870.2	822
Circulatory diseases	332,202	252,110	253,406	294,691	285,364	7,652.2	5,716.5	5,653.1	6,293.7	5,958.4
Respiratory diseases	248,472	230,764	282,302	323,930	305,248	5,723.5	5,232.5	6,297.8	6,918.2	6,373.6
Diseases of the digestive organs	197,534	141,042	185,293	189,573	212,091	4,550.2	3,198.1	4,133.6	4,048.7	4,428.5
Diseases of the skin and subcutaneous tissue	51,767	34,157	41,585	52,894	48,668	1,192.4	774.5	927.7	1,129.7	1,016.2
Diseases of the musculoskeletal system	124,921	81,174	97,543	118,831	115,414	2,877.5	1,840.6	2,176	2,537.9	2,409.9
Diseases of the genitourinary system	186,751	124,447	146,575	177,586	161,595	4,301.8	2,821.8	3,269.9	3,792.7	3,374.1
Pregnancy, childbirth, and the postnatal period	103,641	64,391	83,034	96,430	89,917	4,666.8	2,854.5	3,620.9	3,997.9	1,877.5
Congenital anomalies	4,166	2,470	3,232	4,153	3,827	96	56	72.1	88.7	79.9
Symptoms, signs and inaccurately labelled	4,881	3,251	4,671	6,340	7,083	112.4	73.7	104.2	135.4	147.9
Injuries and poisoning	76,054	54,073	60,896	69,431	70,875	1,751.9	1,226.1	1,358.5	1,482.8	1,479.9

According to Table 4, gastrointestinal diseases increased, reflecting growing digestive health issues. Kidney and bladder diseases remained stable, while musculoskeletal disorders rose due to accidents. Cardiovascular diseases steadily declined due to improved treatment and prevention. Endocrine and hematopoietic diseases remained low, and viral, bacterial, and parasitic infections significantly decreased after 2020. Other diseases maintained a stable share, encompassing a range of less common conditions. Table 5 presents

the prevalence of diseases among the entire population of Kyrgyzstan from 2019 to 2023.

The significant incidence of respiratory disorders among students is ascribed to environmental and behavioural factors, including exposure to congested indoor environments, heightened susceptibility to viral infections, and detrimental lifestyle choices, such as smoking and inadequate ventilation.²⁵ Academic stress might further impair immune function, increasing students' vulnerability to respiratory

illnesses.^{26–28} The prevalence of digestive illnesses indicates stress-related gastrointestinal problems, irregular eating patterns, and possible nutritional deficiencies, typically intensified by a diet rich in processed foods and caffeine resulting from time limitations.^{29,30}

The alarming prevalence of viral and parasitic disorders among students may suggest insufficient public health education and hygiene practices. Constrained living conditions and diminished compliance with health protocols exacerbate this problem. Dermatological conditions underscore the significance of hygiene and environmental influences on student health. Conversely, cardiovascular disorders are less common, perhaps due to the younger population. Still, early risk factors including stress and inadequate nutrition indicate possible future metabolic health issues.

Variations in body composition throughout academic years indicate adjustments in student health. First-year students frequently have reduced body mass attributable to stress and nutritional inconsistencies, but subsequent years reveal weight increases associated with dietary modifications and less physical activity.^{31,32} The sustained low BMI in certain adolescents signifies persistent dietary difficulties that necessitate more investigation. Reduced muscular strength signifies a sedentary lifestyle among students, which correlates with less engagement in physical activity.^{33–35} This deficiency in fitness might negatively impact respiratory function and general health.³⁶ Structured physical exercise programs may effectively address these problems.

The student population exhibits distinct morbidity patterns when compared to national health trends. Although respiratory and digestive problems are prevalent in both groups, students have elevated rates of visual impairments, presumably because of excessive use of digital devices. Stress-related diseases highlight the effects of academic stress on student health, underscoring the necessity for specialised treatments that encompass mental health support, nutritional education, and enhanced access to preventative healthcare specifically designed for this population.

5. DISCUSSION

Given the declining birth rate and increasing ageing of the population, there will be an increasing burden on the health care system, especially in the context of prevention and treatment of chronic diseases. Young people, including students, represent the future labour force and demographic basis of the country, and their health directly affects the long-term demographic development of the nation. Higher morbidity in categories such as digestive diseases and infectious diseases points to the need to improve living and learning conditions, introduce preventive measures and increase access to health care for students.

In a study by Li,³⁷ the author evaluated the respiratory system disease in students. It was found that the annual gradual increase in disease was followed by a sharp increase in 2019–2020, which was associated with the COVID-19

pandemic. These data had similarities with the prevalence of respiratory system diseases in students in Kyrgyzstan and the general population. In a scientific paper by Biswas et al.,³⁸ the authors studied the prevalence of risk factors for non-communicable diseases in adolescents. The risk factors included consumption of fast food and junk food, low physical activity, sedentary lifestyle, low fruit and vegetable intake, tobacco smoking and alcohol consumption, and overweight or obesity.^{39,40} The prevalence of 4 or more factors ranged from 14.8% to 44%. The most common risk factors were low fruit and vegetable intake and physical inactivity. These data are comparable to the present study, as Kyrgyz students in their first years of study had low body weight and an asthenic body type, indicating a sedentary lifestyle.

In a study by Shrestha et al.,⁴¹ the authors studied tobacco use among medical students. The prevalence of smoking was 30.1%, almost 50% had smoked one cigarette at least once in their life, and almost 24% first tried smoking in late adolescence. About 47% of the students reported that they were exposed to second-hand smoke at home and in public places. This study showed a high prevalence of smoking among students. And this can directly influence the prevalence of some diseases among young people, including respiratory diseases, which are leading among students in Kyrgyzstan. In addition, the level of smoking prevalence among the population worldwide remains at a fairly high level.^{42–44} In another study by Pengpid and Peltzer,⁴⁵ the authors determined that out of 837 students in Kyrgyzstan, 29.3% abused tobacco smoking, 3.6% were heavy alcohol users, 20.5% had low physical activity, 86.4% did not consume enough fruits and vegetables, and 9.5% were overweight. Also, male gender and lack of knowledge or negative beliefs about the benefits of a healthy lifestyle were significant risk factors for non-communicable diseases in young people.⁴⁶ This is confirmed by high rates of respiratory, digestive and visual impairment.

Dao and Gautret⁴⁷ reported gastrointestinal infections and traveller's diarrhoea, respiratory tract infections and skin infections. Blood-borne diseases, sexually transmitted diseases, trauma and mental health disorders were rarely reported. According to the criterion of the prevalence of skin diseases among students, acne was reported at 10.3%, eczema at 5.8%, chronic urticaria at 2.6%, psoriasis at 0.16% and vitiligo at 0.23% out of 28364 students.⁴⁸ These data have similarities with the present study, as the overall prevalence of skin diseases among students in Kyrgyzstan was high at 7.25%.

Mansour et al.⁴⁹ evaluated the effect of body structure on arm and leg strength during short maximal-load exercises in undergraduate students. It was determined that male students had a lower percentage of body fat than females. Dynamometry values for males averaged 44 kg and for females 31 kg, which were the limits of the norm. However, these values are higher compared to the dynamometry values of the present study, indicating low physical activity and muscle strength among young people in Kyrgyzstan. In another study, Zhang et al.⁵⁰ reported that in students of both sexes, high body fatness affected the values of the vital capacity

of the lungs. Lung function was worse in such individuals. However, in male students with low body weight and BMI less than 18.6, it was found that more adipose tissue had an effect on better values of external respiratory function. These findings differ from the present study because most of the students studied had low BMI and not high vital capacity values.

The study by Yamamoto et al.^{16,17} supported the findings of a high prevalence of gastrointestinal diseases among students, which were directly related to body mass index. In these studies, it was found that the lower the BMI the greater the likelihood of functional dyspepsia. Conversely, a high BMI influenced the occurrence of irritable bowel syndrome. Both BMI-related conditions were more common in women.

6. CONCLUSIONS

- (1) Students are most susceptible to respiratory, digestive, infectious diseases, and visual impairments.
- (2) The prevalence of respiratory diseases among students is 22.0%, which is lower than the general population rate of 27.8%, while digestive diseases are more common at 20.6% compared to 13.7% in the population.
- (3) Infectious diseases are significantly more common among students, accounting for 11.3% compared to 3.2% in the general population.
- (4) Future research should focus on preventing chronic diseases in students, improving their health and nutrition, as youth health is crucial for the health of the entire nation.

Conflict of interest

The authors have no conflicts of interest to declare.

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Ethics

A study was approved by the Ethics Commission of Osh State University, No. 55682.

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