

GEORGIAN MEDICAL NEWS

ISSN 1512-0112

NO 6 (351) Июнь 2024

ТБИЛИСИ - NEW YORK



ЕЖЕМЕСЯЧНЫЙ НАУЧНЫЙ ЖУРНАЛ

Медицинские новости Грузии
საქართველოს სამედიცინო სიახლენი

GEORGIAN MEDICAL NEWS

Monthly Georgia-US joint scientific journal published both in electronic and paper formats of the Agency of Medical Information of the Georgian Association of Business Press.
Published since 1994. Distributed in NIS, EU and USA.

GMN: Georgian Medical News is peer-reviewed, published monthly journal committed to promoting the science and art of medicine and the betterment of public health, published by the GMN Editorial Board since 1994. GMN carries original scientific articles on medicine, biology and pharmacy, which are of experimental, theoretical and practical character; publishes original research, reviews, commentaries, editorials, essays, medical news, and correspondence in English and Russian.

GMN is indexed in MEDLINE, SCOPUS, PubMed and VINITI Russian Academy of Sciences. The full text content is available through EBSCO databases.

GMN: Медицинские новости Грузии - ежемесячный рецензируемый научный журнал, издаётся Редакционной коллегией с 1994 года на русском и английском языках в целях поддержки медицинской науки и улучшения здравоохранения. В журнале публикуются оригинальные научные статьи в области медицины, биологии и фармации, статьи обзорного характера, научные сообщения, новости медицины и здравоохранения. Журнал индексируется в MEDLINE, отражён в базе данных SCOPUS, PubMed и ВИНТИ РАН. Полнотекстовые статьи журнала доступны через БД EBSCO.

GMN: Georgian Medical News – საქართველოს სამედიცინო სიახლენი – არის ყოველთვიური სამეცნიერო სამედიცინო რეცენზირებადი ჟურნალი, გამოიცემა 1994 წლიდან, წარმოადგენს სარედაქციო კოლეგიისა და აშშ-ის მეცნიერების, განათლების, ინდუსტრიის, ხელოვნებისა და ბუნებისმეტყველების საერთაშორისო აკადემიის ერთობლივ გამოცემას. GMN-ში რუსულ და ინგლისურ ენებზე ქვეყნდება ექსპერიმენტული, თეორიული და პრაქტიკული ხასიათის ორიგინალური სამეცნიერო სტატიები მედიცინის, ბიოლოგიისა და ფარმაციის სფეროში, მიმოხილვითი ხასიათის სტატიები.

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WEBSITE

www.geomednews.com

К СВЕДЕНИЮ АВТОРОВ!

При направлении статьи в редакцию необходимо соблюдать следующие правила:

1. Статья должна быть представлена в двух экземплярах, на русском или английском языках, напечатанная через **полтора интервала на одной стороне стандартного листа с шириной левого поля в три сантиметра**. Используемый компьютерный шрифт для текста на русском и английском языках - **Times New Roman (Кириллица)**, для текста на грузинском языке следует использовать **AcadNusx**. Размер шрифта - **12**. К рукописи, напечатанной на компьютере, должен быть приложен CD со статьей.

2. Размер статьи должен быть не менее десяти и не более двадцати страниц машинописи, включая указатель литературы и резюме на английском, русском и грузинском языках.

3. В статье должны быть освещены актуальность данного материала, методы и результаты исследования и их обсуждение.

При представлении в печать научных экспериментальных работ авторы должны указывать вид и количество экспериментальных животных, применявшиеся методы обезболивания и усыпления (в ходе острых опытов).

4. К статье должны быть приложены краткое (на полстраницы) резюме на английском, русском и грузинском языках (включающее следующие разделы: цель исследования, материал и методы, результаты и заключение) и список ключевых слов (key words).

5. Таблицы необходимо представлять в печатной форме. Фотокопии не принимаются. **Все цифровые, итоговые и процентные данные в таблицах должны соответствовать таковым в тексте статьи**. Таблицы и графики должны быть озаглавлены.

6. Фотографии должны быть контрастными, фотокопии с рентгенограмм - в позитивном изображении. Рисунки, чертежи и диаграммы следует озаглавить, пронумеровать и вставить в соответствующее место текста **в tiff формате**.

В подписях к микрофотографиям следует указывать степень увеличения через окуляр или объектив и метод окраски или импрегнации срезов.

7. Фамилии отечественных авторов приводятся в оригинальной транскрипции.

8. При оформлении и направлении статей в журнал МНГ просим авторов соблюдать правила, изложенные в «Единых требованиях к рукописям, представляемым в биомедицинские журналы», принятых Международным комитетом редакторов медицинских журналов - <http://www.spinesurgery.ru/files/publish.pdf> и http://www.nlm.nih.gov/bsd/uniform_requirements.html В конце каждой оригинальной статьи приводится библиографический список. В список литературы включаются все материалы, на которые имеются ссылки в тексте. Список составляется в алфавитном порядке и нумеруется. Литературный источник приводится на языке оригинала. В списке литературы сначала приводятся работы, написанные знаками грузинского алфавита, затем кириллицей и латиницей. Ссылки на цитируемые работы в тексте статьи даются в квадратных скобках в виде номера, соответствующего номеру данной работы в списке литературы. Большинство цитированных источников должны быть за последние 5-7 лет.

9. Для получения права на публикацию статья должна иметь от руководителя работы или учреждения визу и сопроводительное отношение, написанные или напечатанные на бланке и заверенные подписью и печатью.

10. В конце статьи должны быть подписи всех авторов, полностью приведены их фамилии, имена и отчества, указаны служебный и домашний номера телефонов и адреса или иные координаты. Количество авторов (соавторов) не должно превышать пяти человек.

11. Редакция оставляет за собой право сокращать и исправлять статьи. Корректур авторам не высылаются, вся работа и сверка проводится по авторскому оригиналу.

12. Недопустимо направление в редакцию работ, представленных к печати в иных издательствах или опубликованных в других изданиях.

При нарушении указанных правил статьи не рассматриваются.

REQUIREMENTS

Please note, materials submitted to the Editorial Office Staff are supposed to meet the following requirements:

1. Articles must be provided with a double copy, in English or Russian languages and typed or computer-printed on a single side of standard typing paper, with the left margin of 3 centimeters width, and 1.5 spacing between the lines, typeface - **Times New Roman (Cyrillic)**, print size - 12 (referring to Georgian and Russian materials). With computer-printed texts please enclose a CD carrying the same file titled with Latin symbols.

2. Size of the article, including index and resume in English, Russian and Georgian languages must be at least 10 pages and not exceed the limit of 20 pages of typed or computer-printed text.

3. Submitted material must include a coverage of a topical subject, research methods, results, and review.

Authors of the scientific-research works must indicate the number of experimental biological species drawn in, list the employed methods of anesthetization and soporific means used during acute tests.

4. Articles must have a short (half page) abstract in English, Russian and Georgian (including the following sections: aim of study, material and methods, results and conclusions) and a list of key words.

5. Tables must be presented in an original typed or computer-printed form, instead of a photocopied version. **Numbers, totals, percentile data on the tables must coincide with those in the texts of the articles.** Tables and graphs must be headed.

6. Photographs are required to be contrasted and must be submitted with doubles. Please number each photograph with a pencil on its back, indicate author's name, title of the article (short version), and mark out its top and bottom parts. Drawings must be accurate, drafts and diagrams drawn in Indian ink (or black ink). Photocopies of the X-ray photographs must be presented in a positive image in **tiff format**.

Accurately numbered subtitles for each illustration must be listed on a separate sheet of paper. In the subtitles for the microphotographs please indicate the ocular and objective lens magnification power, method of coloring or impregnation of the microscopic sections (preparations).

7. Please indicate last names, first and middle initials of the native authors, present names and initials of the foreign authors in the transcription of the original language, enclose in parenthesis corresponding number under which the author is listed in the reference materials.

8. Please follow guidance offered to authors by The International Committee of Medical Journal Editors guidance in its Uniform Requirements for Manuscripts Submitted to Biomedical Journals publication available online at: http://www.nlm.nih.gov/bsd/uniform_requirements.html
http://www.icmje.org/urm_full.pdf

In GMN style for each work cited in the text, a bibliographic reference is given, and this is located at the end of the article under the title "References". All references cited in the text must be listed. The list of references should be arranged alphabetically and then numbered. References are numbered in the text [numbers in square brackets] and in the reference list and numbers are repeated throughout the text as needed. The bibliographic description is given in the language of publication (citations in Georgian script are followed by Cyrillic and Latin).

9. To obtain the rights of publication articles must be accompanied by a visa from the project instructor or the establishment, where the work has been performed, and a reference letter, both written or typed on a special signed form, certified by a stamp or a seal.

10. Articles must be signed by all of the authors at the end, and they must be provided with a list of full names, office and home phone numbers and addresses or other non-office locations where the authors could be reached. The number of the authors (co-authors) must not exceed the limit of 5 people.

11. Editorial Staff reserves the rights to cut down in size and correct the articles. Proof-sheets are not sent out to the authors. The entire editorial and collation work is performed according to the author's original text.

12. Sending in the works that have already been assigned to the press by other Editorial Staffs or have been printed by other publishers is not permissible.

**Articles that Fail to Meet the Aforementioned
Requirements are not Assigned to be Reviewed.**

ავტორთა საქურაღებოლ!

რედაქციაში სტატიის წარმოდგენისას საჭიროა დაიცვათ შემდეგი წესები:

1. სტატია უნდა წარმოადგინოთ 2 ცალად, რუსულ ან ინგლისურ ენებზე დაბეჭდილი სტანდარტული ფურცლის 1 გვერდზე, 3 სმ სიგანის მარცხენა ველისა და სტრიქონებს შორის 1,5 ინტერვალის დაცვით. გამოყენებული კომპიუტერული შრიფტი რუსულ და ინგლისურენოვან ტექსტებში - **Times New Roman (Кириллица)**, ხოლო ქართულენოვან ტექსტში საჭიროა გამოვიყენოთ **AcadNusx**. შრიფტის ზომა – 12. სტატიას თან უნდა ახლდეს CD სტატიით.

2. სტატიის მოცულობა არ უნდა შეადგენდეს 10 გვერდზე ნაკლებს და 20 გვერდზე მეტს ლიტერატურის სიის და რეზიუმეების (ინგლისურ, რუსულ და ქართულ ენებზე) ჩათვლით.

3. სტატიაში საჭიროა გაშუქდეს: საკითხის აქტუალობა; კვლევის მიზანი; საკვლევი მასალა და გამოყენებული მეთოდები; მიღებული შედეგები და მათი განსჯა. ექსპერიმენტული ხასიათის სტატიების წარმოდგენისას ავტორებმა უნდა მიუთითონ საექსპერიმენტო ცხოველების სახეობა და რაოდენობა; გაუტკივარებისა და დაძინების მეთოდები (მწვავე ცდების პირობებში).

4. სტატიას თან უნდა ახლდეს რეზიუმე ინგლისურ, რუსულ და ქართულ ენებზე არანაკლებ ნახევარი გვერდის მოცულობისა (სათაურის, ავტორების, დაწესებულების მითითებით და უნდა შეიცავდეს შემდეგ განყოფილებებს: მიზანი, მასალა და მეთოდები, შედეგები და დასკვნები; ტექსტუალური ნაწილი არ უნდა იყოს 15 სტრიქონზე ნაკლები) და საკვანძო სიტყვების ჩამონათვალი (key words).

5. ცხრილები საჭიროა წარმოადგინოთ ნაბეჭდი სახით. ყველა ციფრული, შემაჯამებელი და პროცენტული მონაცემები უნდა შეესაბამებოდეს ტექსტში მოყვანილს.

6. ფოტოსურათები უნდა იყოს კონტრასტული; სურათები, ნახაზები, დიაგრამები - დასათაურებული, დანომრილი და სათანადო ადგილას ჩასმული. რენტგენოგრაფიების ფოტოასლები წარმოადგინეთ პოზიტიური გამოსახულებით **tiff** ფორმატში. მიკროფოტოსურათების წარწერებში საჭიროა მიუთითოთ ოკულარის ან ობიექტივის საშუალებით გადიდების ხარისხი, ანათალების შედეგების ან იმპრეგნაციის მეთოდი და აღნიშნოთ სურათის ზედა და ქვედა ნაწილები.

7. სამამულო ავტორების გვარები სტატიაში აღინიშნება ინიციალების თანდართვით, უცხოურისა – უცხოური ტრანსკრიპციით.

8. სტატიას თან უნდა ახლდეს ავტორის მიერ გამოყენებული სამამულო და უცხოური შრომების ბიბლიოგრაფიული სია (ბოლო 5-8 წლის სიღრმით). ანბანური წყობით წარმოდგენილ ბიბლიოგრაფიულ სიაში მიუთითეთ ჯერ სამამულო, შემდეგ უცხოელი ავტორები (გვარი, ინიციალები, სტატიის სათაური, ჟურნალის დასახელება, გამოცემის ადგილი, წელი, ჟურნალის №, პირველი და ბოლო გვერდები). მონოგრაფიის შემთხვევაში მიუთითეთ გამოცემის წელი, ადგილი და გვერდების საერთო რაოდენობა. ტექსტში კვადრატულ ფხიხლებში უნდა მიუთითოთ ავტორის შესაბამისი N ლიტერატურის სიის მიხედვით. მიზანშეწონილია, რომ ციტირებული წყაროების უმეტესი ნაწილი იყოს 5-6 წლის სიღრმის.

9. სტატიას თან უნდა ახლდეს: ა) დაწესებულების ან სამეცნიერო ხელმძღვანელის წარდგინება, დამოწმებული ხელმოწერითა და ბეჭდით; ბ) დარგის სპეციალისტის დამოწმებული რეცენზია, რომელშიც მითითებული იქნება საკითხის აქტუალობა, მასალის საკმაობა, მეთოდის სანდოობა, შედეგების სამეცნიერო-პრაქტიკული მნიშვნელობა.

10. სტატიის ბოლოს საჭიროა ყველა ავტორის ხელმოწერა, რომელთა რაოდენობა არ უნდა აღემატებოდეს 5-ს.

11. რედაქცია იტოვებს უფლებას შეასწოროს სტატია. ტექსტზე მუშაობა და შეჯერება ხდება საავტორო ორიგინალის მიხედვით.

12. დაუშვებელია რედაქციაში ისეთი სტატიის წარდგენა, რომელიც დასაბეჭდად წარდგენილი იყო სხვა რედაქციაში ან გამოქვეყნებული იყო სხვა გამოცემებში.

აღნიშნული წესების დარღვევის შემთხვევაში სტატიები არ განიხილება.

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UNDERSTAND THE CURRENT SITUATION OF STUDENTS' PHYSICAL FITNESS TEST AND MEASURES TO IMPROVE THEIR PHYSICAL FITNESS TEST SCORES

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Abstract.

Constitutional issues raised by college students have received increasing domestic attention. At the beginning of 2020, the COVID-19 epidemic caused students to take online classes at home, and their physical conditions worsened.

The purpose of this study is to conduct a comparative analysis of the physical fitness test data collected in 2019 and 2020 year, identify existing problems, and explore feasible methods to improve the physical fitness test scores of college students.

This article uses inspection, mathematical statistics, logical analysis and other methods to analyze and discuss the physical examination data of college students in 2019 and 2020 and analyze various data of university students. Specific events include height, weight, body mass index, 50 meters, cardio, long jump, Through research, analysis and suggestions aimed at improving the current students' weight and health status, we will promote the physical and mental health development of students and provide a systematic and scientific basis for student health intervention.

Key words. college students, physical fitness test, strategy.

Introduction.

Constitutional issues raised by college students have received increasing domestic attention. At the beginning of 2020, the COVID-19 epidemic caused students to take online classes at home, and their physical conditions worsened [1,2]. This article takes the students of Wannan Medical College in 2018 and 2019 as the research objects. Through comparative analysis of the physical fitness test data in 2019 and 2020 year, we will identify existing problems and explore feasible methods to improve college students' physical fitness test scores.

Research object and method.

Subjects: Selection of students from the 2018 and 2019 classes of Wannan Medical College. Students include students majoring in clinical, dental, anesthesia, nursing, public health, laboratory testing, imaging, pharmacy, forensic science, medical information, humanities, management and other majors. Among them, there were 1,530 boys and 2,161 girls in 2018 class. In 2019 class, there were 2,311 boys and 2,161 girls. Students in the class of 2018 and 2019 took the physical fitness test in 2019 and 2020 respectively.

Study methodology:

Test: According to the requirements of the Student Physical Health Standards & data on height, weight, vital capacity, seat flexion, 50 meters, pull-ups (male), sit-ups (female), 1000 meters (male), 800 meters (female) records data.

Statistical analysis: SPSS20.0 software was used to analyze the data of 8090 students from Wannan Medical College. Check the changes in students' physical conditions before and after the epidemic.

Results and analysis.

Health test results of students: According to the student physical health standards, 90.0 and above are excellent, 80.0 to 89.9 are good, 60.0 to 79.9 are qualified, and 59.9 and below are unqualified. As shown in Figures 1 and 2, the passing rate of the physical fitness test for students in the class of 2018 reached 99% in both 2019 and 2020. But the excellent rate in 2019 was 2%, and the excellent rate in 2020 was only 1%. Most students will receive a pass or distinction.

As shown in Figures 3 and 4, the passing rate of students in 2019 was 98%, and the failing rate was 2%. In 2020, the pass rate was 96% and the failure rate increased to 4%. The quality index has remained stable at 1% for two consecutive years. The reason for the increase in failing grades is that due to the epidemic, classes are being taught at home and students' physical activities are not as effective as in school. Family sports facilities and equipment are limited and cannot give full play to students' sports enthusiasm. They cannot perform cardiorespiratory training and can only perform relatively simple quality training and small-scale strength training. It cannot effectively improve students' physics test scores. However, since the students in the class of 2019 are first-year students, they spend more time on physical activities in high school cultural classes and their physical condition is average.

Comparison of physical changes of boys in grade 2018 before and after the epidemic.

Table 1 provides a comparative analysis of global boy's data in 2018. There are significant changes in height, body weight, lung capacity, sit forward bend, number of pull-ups and run time of 1000-m run before and after epidemic. There are no significant changes in BMI, distance of standing long jump and run time of 50m dash before and after epidemic.

Comparison of physical changes of girls in grade 2018 before and after the epidemic.

Table 2 shows a comparative analysis of global girls' data in 2018. There are statistically significant differences in height, body weight, BMI, lung capacity, distance of standing long jump, sit forward bend, number of pull-ups and run time of 1000-m run before and after epidemic, except for 50m dash.

Comparison of physical changes of boys in grade 2019 before and after the epidemic.

Table 3 revealed a comparative analysis of global girls' data in 2018. There are statistically significant differences in height, body weight, lung capacity, sit forward bend, number of pull-ups and run time of 1000-m run before and after epidemic, except for BMI, standing long jump and 50m dash.

Table 1. Comparison of physical changes of boys in grade 2018 before and after the epidemic (n=1495).

Group	2019 year	2020 year	t	p
Height(cm)	175.99±5.85	176.44±5.65	2.11	0.04
Weight(kg)	68.59±11.95	69.56±11.16	2.23	0.04
BMI (kg/m ²)	22.13±3.58	22.33±3.31	1.53	0.13
Lung capacity(ml)	4219.94±689.62	4594.83±762.94	13.77	0.00
standing long jump(cm)	230.11±20.13	231.53±19.66	1.91	0.06
Sit Forward Bend(cm)	16.24±6.64	16.81±6.43	2.32	0.02
Pull-ups	4.37±4.51	5.64±4.90	7.17	0.00
50m dash (s)	7.43±0.50	7.46±0.54	1.79	0.07
1000-m run (s)	243.01±19.42	252.11±28.42	9.90	0.00

Table 2. Comparison of physical changes of girls in grade 2018 before and after the epidemic (n=2142).

Group	2019 year	2020 year	t	p
Height(cm)	163.36±5.44	163.88±5.41	3.02	0.00
Weight(kg)	55.67±8.54	54.57±7.96	4.22	0.00
BMI (kg/m ²)	20.85±2.95	20.30±2.63	6.22	0.00
Lung capacity(ml)	2777.06±540.48	3121.53±530.69	20.32	0.00
standing long jump(cm)	172.14±15.75	174.2±15.77	4.98	0.00
Sit Forward Bend(cm)	18.66±5.42	20.14±5.34	8.72	0.00
Pull-ups	32.34±6.59	36.42±6.57	19.61	0.00
50m dash (s)	9.16±0.65	9.18±0.63	0.72	0.47
1000-m run (s)	232.52±17.25	242.31±23.21	14.97	0.00

Table 3. Comparison of measured parameters in the studied group.

Group	2019 year	2020 year	t	p
Height(cm)	175.65±5.77	176.45±5.75	4.71	0.00
Weight(kg)	68.83±12.07	69.93±12.40	-3.07	0.00
BMI(kg/m ²)	22.29±3.67	22.44±3.71	1.32	0.19
Lung capacity(ml)	4281.58±766.22	4470.07±700.63	8.39	0.00
standing long jump(cm)	231.73±20.37	229.19±20.13	4.25	0.06
Sit forward bend(cm)	16.23±6.53	16.72±7.71	2.42	0.02
Pull-ups	5.08±4.94	4.39±4.53	5.11	0.00
50m dash(s)	7.45±0.52	7.47±0.54	1.27	0.20
1000-m run(s)	241.12±25.32	249.28±26.62	10.57	0.00

Table 4. Comparison of physical changes of girls in grade 2019 between before and after the epidemic (n=2161).

Group	2019year(n=2161)	2020 year(n=2161)	t	p
Height(cm)	162.99±5.34	164.06±5.27	7.82	0.00
Weight(kg)	55.19±8.46	55.30±8.48	0.51	0.61
BMI(kg/m ²)	20.76±2.94	20.53±2.91	3.03	0.00
Lung capacity(ml)	2822.09±519.74	3026.47±523.72	15.21	0.00
standing long jump(cm)	174.64±16.06	174.98±14.88	0.85	0.39
Sit Forward Bend(cm)	19.78±5.55	20.58±5.56	5.64	0.00
Pull-ups	34.46±7.11	34.74±6.63	1.58	0.13
50m dash(s)	9.19±0.64	9.21±0.65	0.67	0.51
Run 1000 meters(s)	227.31±21.29	235.94±21.56	15.65	0.00

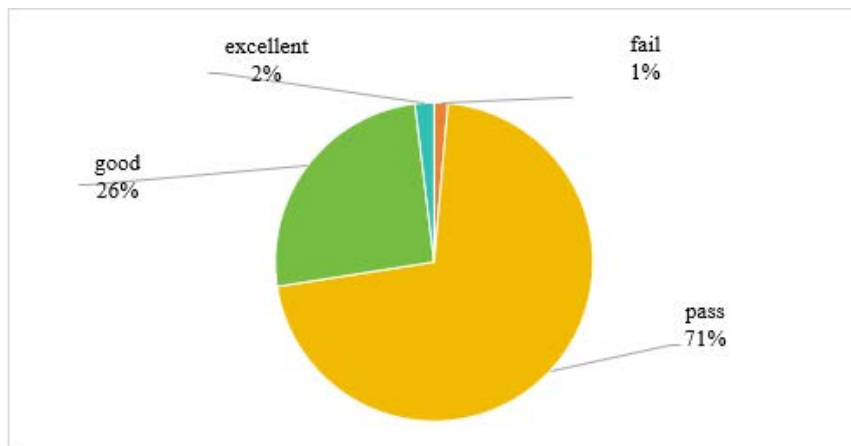


Figure 1. Passing rate of physical fitness test for students of 2018 class in the 2019 academic year.

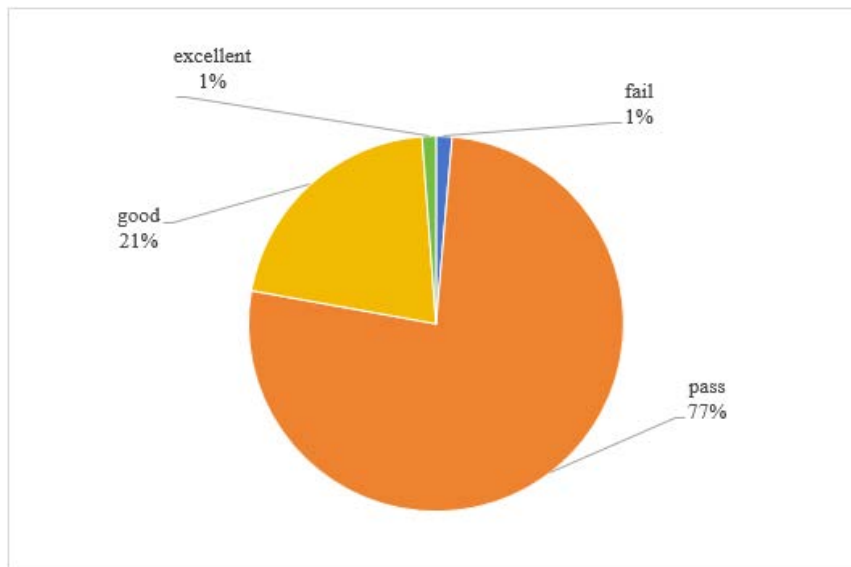


Figure 2. Passing rate of physical fitness test for students of 2018 class in the 2020 academic year.

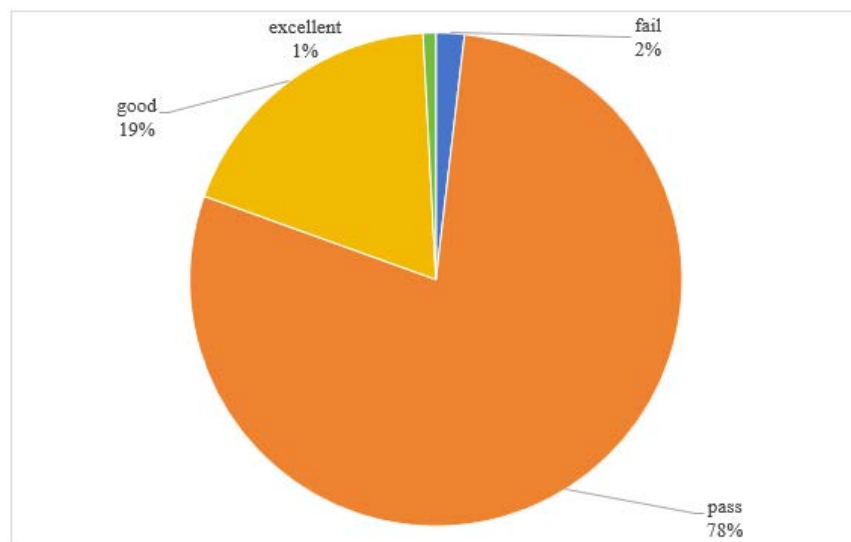


Figure 3. Passing rate of physical fitness test for students of 2019 class in the 2019 academic year.

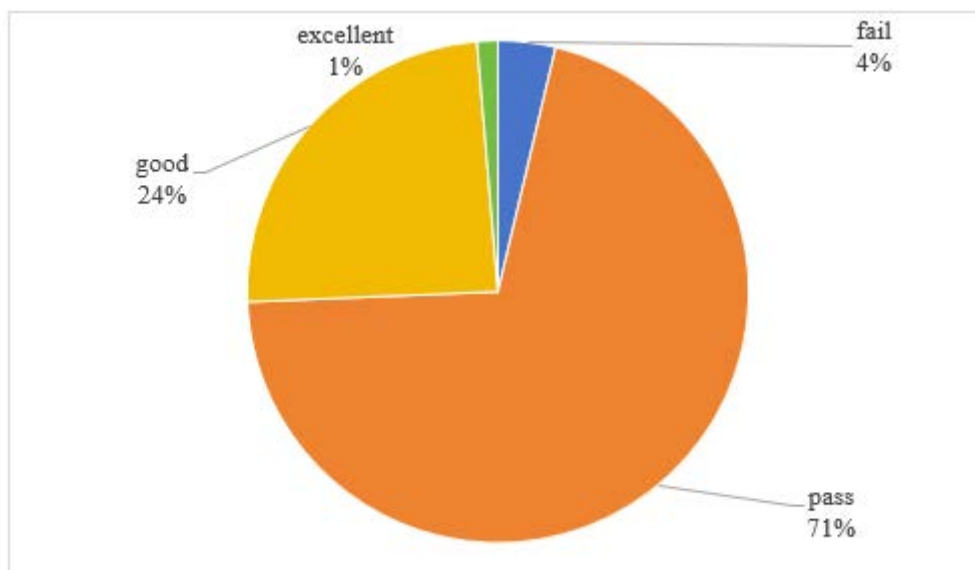


Figure 4. Passing rate of physical fitness test for students of 2019 class in the 2020 academic year.

Comparison of physical changes of girls in 2019 class before and after the epidemic.

As shown in Table 4, there are statistically significant differences in height, BMI, lung capacity, sit forward bend and run time of 1000-m run between before and after epidemic, except for weight, standing long jump, number of pull-ups and time of 50m dash.

Conclusion.

1. The pass rate of the physical fitness test in 2019 and 2020 was 99%. The excellent rate in 2020 decreased by 1% compared with 2019. When the epidemic broke out, students in the class of 2018 were all in their second grade. After a year of college life, they have mastered some basic physical training methods and developed certain training habits. The impact of physical examination data during the epidemic is not particularly obvious.

2. The pass rate of the physical fitness test was 98% in 2019 and 96% in 2020. There are significant differences compared to 2018 data. The graduates of 2019 have just begun their studies. During school, they are under great pressure and do not have enough time for physical activities. Even the physical education class is composed of teachers with different cultural backgrounds and their physical fitness is relatively poor. College sports training methods and techniques have not yet been systematically studied, and home training effects are average.

Recommendations.

1. Strengthen self-monitoring and cultivate awareness of exercise. The body is the basis for learning and working. Only by having a strong body can we study, work and serve society better. During the epidemic, schools were closed, and physical

education classes could only be conducted online. Practical courses are difficult, but everyone overcomes difficulties and teaches online and offline. Online courses, basics of movement coaching, common mistakes, things to pay attention to. If you want to practice offline, make a video of the practice and send it to the teacher; when taking classes from home, students will sit more and move less because they are learning more online. In addition to better nutrition, greater energy expenditure, and less effort at home than at school, most students gain weight and body mass index. Therefore, students should strengthen self-monitoring, develop good eating habits, and do some simple exercises in class, such as push-ups, high kicks, back kicks, sidekicks, front kicks, sit-ups, etc., to continue training.

2. Improve teachers' online teaching skills and rationally design lesson plans and teaching content. Due to changes in teaching methods, teachers not only need to prepare lessons, but also need to use online teaching software, video editing software, and online teaching resources to ensure the success of teaching. Therefore, the school regularly carries out online teacher training, questions and answers, and counseling to help teachers better perform their online teaching responsibilities.

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