

DYNAMICS OF SPORTS AND TECHNICAL INDICATORS

AT THE WORLD CHAMPIONSHIPS AND CHAMPIONSHIPS OF THE REPUBLIC OF BELARUS IN CLASSIC POWERLIFTING AMONG FEMALE JUNIORS

**Teplov A.A.**

Belarusian State
University of Physical
Culture

**Gatatullin A.G.**

Belarusian State
University of Physical
Culture

**Us A.C.**

Belarusian State
University of Physical
Culture

This study examines the evolution of sports-technical performance indicators in classic powerlifting among female juniors at both international level and in the Republic of Belarus. It analyzes data from the World Championships and the Championships of the Republic of Belarus to identify trends, challenges, and factors influencing performance. Key findings highlight the need for improvements in the Republic of Belarus powerlifting infrastructure and support systems to foster growth and achieve higher competitive results.

Keywords: powerlifting; efficiency; technical mastery; competitive activity; strength indicators.

ДИНАМИКА СПОРТИВНО-ТЕХНИЧЕСКИХ ПОКАЗАТЕЛЕЙ НА ЧЕМПИОНАТЕ МИРА И ЧЕМПИОНАТЕ РЕСПУБЛИКИ БЕЛАРУСЬ ПО КЛАССИЧЕСКОМУ ПАУЭРЛИФТИНГУ СРЕДИ ЮНИОРОК

В этом исследовании рассматривается эволюция показателей спортивно-технической результативности в классическом пауэрлифтинге среди юниорок на международном уровне и в Республике Беларусь. Анализируются данные чемпионатов мира и чемпионатов Республики Беларусь для выявления тенденций, проблем и факторов, влияющих на результативность. Основные выводы подчеркивают необходимость улучшения инфраструктуры и систем поддержки пауэрлифтинга в Республике Беларусь для стимулирования роста и достижения более высоких результатов в соревнованиях.

Ключевые слова: пауэрлифтинг; эффективность; техническое мастерство; соревновательная деятельность; силовые показатели.

Classical powerlifting, as a sport, has been garnering increasing attention due to its unique combination of strength, technique, and endurance. In recent years, there has been a significant surge in interest in this sport among female juniors. This is not only due to the rising number of participants but also the improvement in sports and technical performance at various levels of competition. This article examines the dynamics of these indicators at the World Championships and the Championships of the Republic of Belarus in classical powerlifting in the triathlon among female juniors.

Throughout history, the display of physical strength has garnered attention and admiration across various cultures, stemming from the biological nature of humans striving for survival and overcoming challenges. Competitions based on strength skills, such as weightlifting and powerlifting, reflect society's intuitive need to exhibit physical strength and endurance. Ancient Egyptian and Greek documents confirm the existence of such contests. However, modern powerlifting only began to develop in the mid-20th century. In the 1950s, the United States transitioned to more organized com-

petitions focused on achieving maximum strength and muscle mass. This led to formation of the three primary disciplines of powerlifting: squats, bench press, and deadlift, which resulted from the evolution of strength sports like weightlifting and bodybuilding.

The first official powerlifting competitions were held in the USA in the 1960s. In 1964, the American Powerlifting Association organized the first international competitions, which quickly attracted participants from around the world. This led to the establishment of the International Powerlifting Federation (IPF) in 1972, marking a significant step towards standardizing the sport on the international stage.

Since the 1970s, powerlifting began to spread to countries like Canada, the United Kingdom, and Norway, as well as in Eastern Europe, which contributed to the increase in the number of participants and the growth in results. The introduction of women's world championships in 1980 marked the beginning of a new era, making women's powerlifting an important element of the international sports program.

The Classic Division in the International Powerlifting Federation (IPF) was established in 2012, marking the beginning of competitions for both men and women. The first world championship for juniors took place in 2013. The popularity of this division is due to the performance of exercises without specialized equipment, making the competitions more accessible and attractive to a broader audience.

Since its inception, powerlifting has continued to evolve through the integration of advanced training methods and result analysis technologies. The increase in competition viewership through television and internet broadcasts has contributed to the growing popularity of this sport, which is now included in the World Games and has attained the status of a national sport in some regions.

Thus, the evolution of powerlifting demonstrates the transformation of this sport from a mere display of physical strength to a structured discipline with clear rules and a large number of participants, highlighting its significance in international sports culture and opening up new prospects for future development.

Powerlifting, like any other sport, requires constant analysis and monitoring of results to understand trends and identify factors that contribute to improved performance. It is important to note that success in powerlifting depends on numerous factors, including physical preparation, exercise technique, psychological resilience, and even aspects such as nutrition and recovery.

At the World Powerlifting Championships, female junior athletes from different countries demonstrate a high level of preparation and strive to set new records. These competitions are an excellent platform for exchanging experiences and knowledge between athletes and coaches, contributing to the overall development of the sport. At the same time, the Championships of the Republic of Belarus should provide a unique opportunity

for local athletes to showcase themselves at the national level and prepare for international competitions.

The junior age category represents a crucial stage in an athlete's career, where the foundations of skill are laid, and sporting habits are formed, contributing to future success. It is at this age that girls develop numerous factors influencing their athletic performance, including physical fitness, psychological resilience, and exercise technique. World and national competitions create a unique platform for studying the dynamics of changes in sports achievements, as they allow for comparing results at different stages of the sports development.

The dynamics of sports-technical indicators generally reflect overall trends in the development of this sport discipline. Therefore, it is essential to investigate how female juniors' results at these levels change over time. World Championships act as an indicator of progress, while the analysis of national championships results helps to identify how these changes affect the level of athlete preparation within the country.

One of the key aspects influencing the dynamics of sports-technical indicators is the development of infrastructure and access to modern training methods. Additionally, support from the government and sports organizations, which provide funding and high-level competition organization, plays an important role.

Analyzing the results of the World Championships, it can be observed that female juniors consistently show growth in all competitive disciplines. This indicates that coaches and athletes are looking for effective training methods that lead to high performance. It is also important to note that successes on the international stage contribute to the popularization of powerlifting among the youth and attract new participants to the sport.

In addition to the aforementioned points, the dynamics of sports-technical indicators at the World Championships

Table 1. – Dynamics of the best sports-technical indicators (in GL IPF Points) at the World Championships and the Championships of the Republic of Belarus in classical powerlifting among junior women in squats, bench press, deadlift, and the total, averaged across all weight categories

Year	No. of weight categories		No. of competition participants Squat		Average values of results							
					Bench press		Deadlift		Total			
	world	BLR	world	BLR	world	BLR	world	BLR	world	BLR	world	BLR
2013	8	--	22	--	29,02	--	18,10	--	34,37	--	80,45	--
2014	8	--	47	--	31,88	--	19,91	--	36,36	--	86,11	--
2015	8	4	56	7	32,71	25,00	21,21	15,43	37,69	28,62	88,83	68,63
2016	8	7	57	10	33,68	23,69	20,95	13,71	38,98	28,09	90,98	65,21
2017	8	8	69	16	34,49	27,27	21,29	15,85	39,23	31,87	91,79	74,52
2018	8	2	63	2	34,84	22,35	20,47	13,23	40,81	22,33	93,99	57,91
2019	8	3	85	5	36,00	27,77	23,30	15,65	42,10	29,44	97,65	72,85
2020	--	3	--	4	--	22,23	--	11,70	--	26,92	--	60,95
2021	9	--	69	--	36,38	--	22,46	--	41,44	--	96,20	--
2022	9	2	88	3	38,46	30,14	25,00	14,91	43,41	31,67	105,21	73,70
2023	9	3	103	4	39,12	24,74	24,03	14,32	44,80	29,69	105,57	68,74
2024	9	4	132	5	40,52	23,78	25,07	13,12	45,77	26,37	108,59	63,00

and the Championships of the Republic of Belarus in classical powerlifting in the triathlon among female juniors are important indicators of the sports development. Continuous analysis and monitoring of results allow for identifying effective training methods and strategies that contribute to improving indicators and achieving high results on the international stage in the future.

The study has analyzed the best results of participants in the World Championships and the Championships of the Republic of Belarus in various weight categories. Results, expressed in kilograms, both in the total triathlon and in individual exercises, have been converted into GL IPF Points.

These data have been then used to calculate average indicators across all weight categories (Table 1, Figure 1).

Dynamics of sports-technical indicator in squats

An analysis of the dynamics of female juniors' sports results on the international stage from 2013 to 2024, expressed in GL IPF Points, revealed the following trends. The average global indicator shows a steady increase from 29.02 points in 2013 to 40.52 points in 2024, representing a 39.63 % increase. There is an almost linear positive correlation between the year and the result on the international stage. Meanwhile, the dynamics of sports results in the Republic

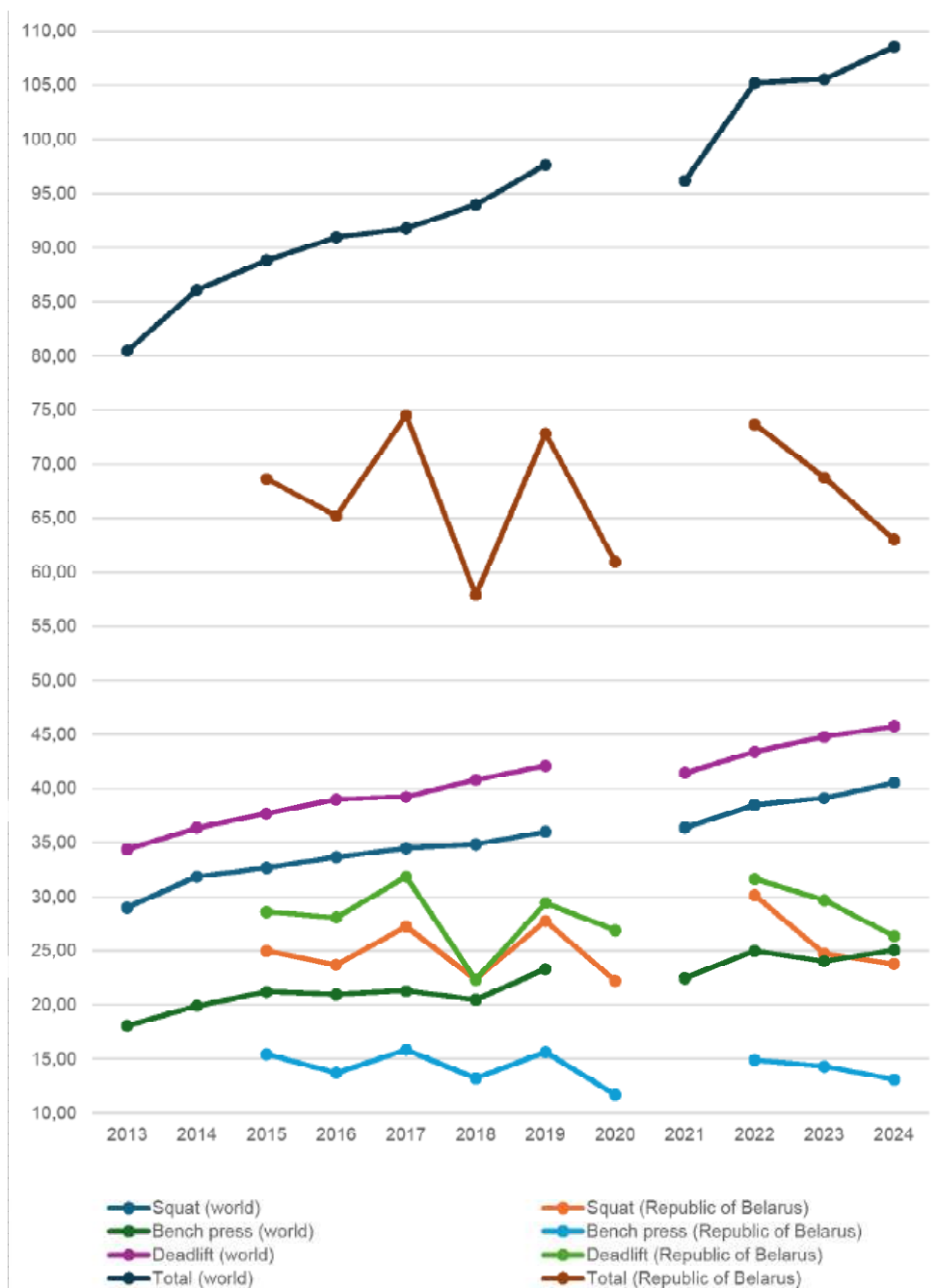


Figure 1. – Dynamics of the best sports-technical indicators (in GL IPF Points) at the World Championships and the Championships of the Republic of Belarus in classical powerlifting among junior women in squats, bench press, deadlift, and the total, averaged across all weight categories

of Belarus are characterized by more pronounced variability, demonstrating a wave-like pattern. Despite reaching a peak value of 30.14 points in 2022, the overall growth trend observed at the global level is not as evident for Belarus.

Dynamics of sports-technical indicators in bench press

An analysis of the dynamics of the female juniors' sports results on the international stage from 2013 to 2024, expressed in GL IPF Points, revealed the following trends. The average global indicators have increased from 18.10 points in 2013 to 25.07 points in 2024, reflecting a 38.51 % growth. Despite the overall upward trend, the dynamics show a wave-like pattern with minor periods of decline. In the Republic of Belarus, changes in the level of sportsmanship also exhibit a wave-like nature. However, unlike global indicators, they do not accompany the growth. The peak value was reached in 2015 (15.43 points) at the first Championship of the Republic of Belarus and was not exceeded in subsequent years.

Dynamics of sports-technical indicators in deadlift

An analysis of the dynamics of female juniors' sports results in classical powerlifting from 2015 to 2024 have revealed significant differences in development trends on the international stage and in the Republic of Belarus. Starting from 28.62 GL IPF Points in 2015, Belarusian athletes reach a peak of 31.87 points in 2017, followed by a decline in performance. Meanwhile, on the international stage, there is a steady increase from 34.37 points in 2013 to 45.77 points in 2024, indicating a growth of 33.17 %. The dynamics of changes at the international level are characterized by an almost linear trend, while more pronounced fluctuations are observed in Belarus.

Dynamics of sports-technical indicators in total powerlifting

An analysis of the dynamics of the total, as an integral indicator of athletes' strength readiness, have revealed significant differences in development trends on the international stage and in the Republic of Belarus. Since the total directly depends on the results in basic exercises (squats, bench press, deadlift), its dynamics reflect overall trends in strength performance development in these exercises.

On the international stage, there is a steady increase in the average result from 80.45 GL IPF Points in 2013 to 108.59 points in 2024, indicating an improvement in athletes' strength readiness. The dynamics of changes are characterized by a gradual wave-like growth. In the Republic of Belarus, starting from 68.63 GL IPF Points in 2015, athletes reach peak indicators of 74.52 points in 2017, followed by a decline in performance. The lowest values are recorded in 2018 (57.91 GL IPF Points).

CONCLUSIONS

An analysis of the dynamics of classical powerlifting development among junior women in the Republic of Belarus have revealed several contradictory trends amidst the global growth in the sport popularity and results. De-

spite the significant expansion of the global powerlifting community and improvements in training methods, the opposite trend is observed in Belarus. The decrease in the number of female athletes participating in competitions and lack of significant growth in sports-technical indicators reflect issues in the sport development within the country.

An analysis of the powerlifting exercises structure has shown that all three exercises contribute to improving sports results. However, the deadlift, as the most static exercise, has the least impact on overall dynamics. This is related to the biomechanics of the exercise and the emphasis on developing static strength.

Key factors negatively affecting the development of powerlifting in Belarus are:

Reduction in sports infrastructure: The closure of youth sports schools and club's limits in training accessibility for young athletes.

Outflow of qualified personnel: lack of experienced coaches hinders the improvement of athletes' preparation levels.

Poor coordination between sports organizations: lack of effective interaction between the federation and other structures complicates the development of powerlifting in the country.

Insufficient support for athletes and coaches: lack of financial and material support negatively affects the motivation of athletes and coaches.

As a result of these factors, there is a decline in the attractiveness of powerlifting for youth, leading to a decrease in the number of competition participants and, consequently, a distortion of the overall picture of the sport development in the country.

To address the existing problems and stimulate the development of powerlifting in Belarus, it is necessary to:

Restore sports infrastructure: open new powerlifting sections and clubs.

Prepare qualified coaching personnel and organize advanced training courses for coaches.

Strengthen interaction between sports organizations: create an effective system for coordinating the efforts of various structures aimed at developing powerlifting.

Increase the level of financial and material support for athletes and coaches: develop and implement targeted support programs.

Implementing these measures will create favorable conditions for the development of powerlifting in Belarus and contribute to improving the sports results of Belarusian athletes.

LIST OF CITED SOURCES:

1. Powerlifting Championships Results [Electronic resource] // International Powerlifting Federation (IPF). – Mode of access: <https://www.powerlifting.sport/championships/results>. – Date of access: 17.10.2024.
2. Republican Competition Protocols [Electronic resource] // RPA «Federation of Equipment and Classic Powerlifting». – Mode of access: <https://powerlifting.by/protokoly-sorevnovaniy/respublikanskiesorevnovaniya>. – Date of access: 17.10.2024.

23.10.2024