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THE ROLE OF ATHLETICS IN ENHANCING PHYSICAL FITNESS OF STUDENTS ENGAGED IN PARALYMPIC SPORTS

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Annotation

Highlights the importance of physical fitness for students in Paralympic sports, effectiveness of athletics in improving physical qualities, research methods, and key findings.

Keywords

Paralympic sports, physical fitness, athletics, students, training programs

PARALIMPIYA SPORT TURI BILAN SHUG‘ULLANUVCHI TALABALARNI JISMONIY TAYYORGARLIGINI OSHIRISHDA YENGIL ATLETIKANING O‘RNI

Annotatsiya

Paralimpiya sportida ishtirok etuvchi talabalar uchun jismoniy tayyorgarlikning ahamiyati, yengil atletika orqali jismoniy sifatlarni oshirishning samaradorligi, metodika va asosiy natijalar.

Kalit so‘zlar

Paralimpiya sporti, jismoniy tayyorgarlik, yengil atletika, talabalar, mashg‘ulot dasturlari

РОЛЬ ЛЁГКОЙ АТЛЕТИКИ В ПОВЫШЕНИИ ФИЗИЧЕСКОЙ ПОДГОТОВЛЕННОСТИ СТУДЕНТОВ, ЗАНИМАЮЩИХСЯ ПАРАЛИМПИЙСКИМИ ВИДАМИ СПОРТА

Аннотация

Подчеркивается важность физической подготовки студентов паралимпийских видов спорта, эффективность лёгкой атлетики в развитии физических качеств, методы исследования и основные результаты.

Ключевые слова

Паралимпийские виды спорта, физическая подготовка, лёгкая атлетика, студенты, тренировочные программы

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INTRODUCTION

Paralympic sports play a vital role in promoting physical, psychological, and social development among students with disabilities. Participation in sports not only enhances overall health but also contributes to self-confidence, social integration, and personal growth. Physical fitness is a fundamental component for success in Paralympic sports, as it determines the ability to perform motor tasks efficiently and safely. Students with disabilities often face unique challenges, including limited mobility, reduced muscle strength, and lower endurance levels, which can hinder their athletic performance and everyday functional activities [1].

Athletics, encompassing running, jumping, and throwing exercises, has long been recognized as an effective method for developing essential physical qualities such as strength, speed, endurance, agility, and flexibility. For students engaged in Paralympic sports, athletics can serve as a structured, adaptable, and measurable training modality that addresses individual needs while promoting holistic physical development. Integrating athletics into the training programs of Paralympic students allows for targeted improvement of motor abilities, coordination, and cardiovascular fitness, which are critical for competitive performance [2].

Despite the growing recognition of the benefits of adaptive sports, there is limited research focused specifically on the application of athletics to enhance physical fitness among students participating in Paralympic sports. Understanding how structured athletics programs contribute to improving physical qualities can inform coaching strategies, curriculum design, and individualized training plans. Therefore, this study aims to evaluate the role of athletics in enhancing the physical fitness of students engaged in Paralympic sports, examining the extent to which athletics exercises improve their strength, speed, endurance, agility, and flexibility. The findings are expected to provide practical insights for educators, coaches, and sports institutions involved in Paralympic training programs [3,4].

METHODS

This study employed a quasi-experimental design to investigate the role of athletics in enhancing the physical fitness of students engaged in Paralympic sports. The participants included 30 students aged 16–22 years from the Department of Adaptive Physical Education, all of whom were actively involved in Paralympic training programs. Inclusion criteria required that participants had no recent injuries, were medically cleared for physical activity, and were willing to participate in the 8-week athletics intervention. The students represented various

types of physical disabilities, including lower limb impairments, coordination disorders, and mobility limitations.

The intervention consisted of structured athletics training, conducted five days per week for eight weeks, with each session lasting approximately 60 minutes. The program included a combination of sprinting, endurance running, jumping, and throwing exercises, tailored to individual abilities. Intensity levels were gradually increased based on each student's performance and physical condition. Sessions were supervised by certified adaptive sports coaches to ensure safety and correct execution of exercises [5].

Physical fitness was assessed using standardized tests measuring strength, speed, endurance, agility, and flexibility. Strength was evaluated through modified push-up and medicine ball throw tests; speed was assessed using short-distance sprints; endurance was measured with adapted shuttle runs; agility was evaluated using obstacle courses; and flexibility was assessed through sit-and-reach and joint mobility tests. Pre- and post-intervention measurements were recorded to monitor progress [6].

Data were analyzed using descriptive statistics and paired-sample t-tests to determine significant improvements in physical qualities after the intervention. Effect sizes were calculated to assess the magnitude of changes. All statistical analyses were conducted at a 95% confidence level using SPSS software. Ethical approval was obtained from the institutional review board, and informed consent was secured from all participants or their legal guardians.

RESULTS

After the 8-week athletics intervention, significant improvements were observed in the physical fitness of students engaged in Paralympic sports. Pre- and post-intervention assessments revealed measurable gains across all tested parameters, including strength, speed, endurance, agility, and flexibility.

Strength, measured through modified push-ups and medicine ball throws, increased on average by 18% ($p < 0.01$), indicating enhanced muscular capacity in both upper and lower body regions. Speed performance, evaluated through 20-meter sprints, improved by 12% ($p < 0.05$), demonstrating better explosive power and acceleration. Endurance, assessed via adapted shuttle runs, showed an average improvement of 15% ($p < 0.05$), reflecting enhanced cardiovascular capacity and stamina. Agility, evaluated through obstacle courses, increased by 14% ($p < 0.05$), suggesting better coordination and motor control. Flexibility, measured using sit-and-reach tests and joint mobility assessments, improved by 10% ($p < 0.05$), highlighting gains in range of motion and functional movement ability.

The improvements were consistent across participants with different types of physical disabilities, although students with lower limb impairments showed slightly higher gains in upper body strength and agility. Observations during training sessions also indicated increased confidence, better technique execution, and higher engagement in group activities. No adverse events or injuries were reported throughout the study period, indicating that the structured athletics program was both safe and feasible for students with disabilities.

These results confirm that integrating athletics into training programs can effectively enhance multiple physical qualities in students participating in Paralympic sports. The quantitative data suggest that even a relatively short, 8-week intervention can produce measurable improvements in strength, speed, endurance, agility, and flexibility, which are critical for both sports performance and daily functional activities.

DISCUSSION

The findings of this study demonstrate that structured athletics training significantly enhances the physical fitness of students engaged in Paralympic sports. Improvements in strength, speed, endurance, agility, and flexibility are consistent with previous research highlighting the benefits of adaptive athletics programs for individuals with physical disabilities. The observed gains suggest that even an 8-week intervention can produce meaningful changes in motor abilities, which are essential for both sports performance and everyday functional activities [6].

Athletics exercises provide a versatile training modality, allowing coaches to adjust intensity, complexity, and duration according to individual abilities. This adaptability likely contributed to the consistent improvements observed across students with different types of disabilities. Enhanced strength and speed facilitate better execution of sport-specific movements, while gains in endurance and agility support prolonged physical activity and improve overall coordination. Flexibility improvements further reduce the risk of injury and enhance movement efficiency, which is particularly important for students with mobility limitations [7]

The results also highlight the psychosocial benefits of athletics, as increased confidence, motivation, and engagement were observed during training sessions. These findings align with literature suggesting that participation in adaptive sports contributes to self-esteem, social interaction, and personal development among students with disabilities [7,8]

However, the study has some limitations. The relatively small sample size and short intervention period may limit the generalizability of the findings. Future research should explore long-term effects, include larger and more diverse

participant groups, and examine the impact of integrating athletics with other adaptive training modalities.

Overall, this study supports the inclusion of structured athletics in training programs for Paralympic students, emphasizing its effectiveness in improving multiple physical qualities and enhancing overall physical preparedness for both competitive and daily activities.

CONCLUSION

This study demonstrates that structured athletics training plays a crucial role in enhancing the physical fitness of students engaged in Paralympic sports. After an 8-week intervention, significant improvements were observed in key physical qualities, including strength, speed, endurance, agility, and flexibility. These gains indicate that athletics exercises are effective, adaptable, and safe for students with various types of physical disabilities, providing measurable benefits in both sports performance and everyday functional activities.

The findings highlight the importance of individualized and structured training programs, where exercises can be tailored according to each student's abilities and limitations. This personalized approach not only enhances motor skills but also fosters motivation, confidence, and engagement, contributing to the overall psychosocial well-being of students. Athletics, therefore, serves not only as a tool for physical development but also as a means to promote self-esteem, social interaction, and personal growth.

While the study confirms the effectiveness of an 8-week athletics program, it also emphasizes the need for long-term, systematic interventions to maintain and further improve physical fitness. Future research should focus on larger sample sizes, extended training durations, and integration with other adaptive sports modalities to evaluate sustained benefits and optimal training strategies.

In conclusion, integrating athletics into the training programs of Paralympic students is a highly effective strategy for improving multiple physical qualities and overall readiness for sports activities. The practical implications extend to coaches, educators, and sports institutions, highlighting the need for evidence-based adaptive training programs that enhance both physical performance and quality of life for students with disabilities. This study reinforces the central role of athletics as an essential component in the development of comprehensive physical fitness among students participating in Paralympic sports.

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