IJFANS INTERNATIONAL JOURNAL OF FOOD AND NUTRITIONAL SCIENCES
ISSN PRINT 2319 1775 Online 2320 7876
, Journal UGC CARE Listed (Group-I) Volume 13, Iss 04 2024

Dynamic Balance and General Body Co-ordination of Javelin Throwers of Rural, Urban, and Tribal Areas of Vidarbha

Amit Thakur[†] and Dr. Avinash Shahare[††]

[†]Post Graduate Teaching Department of Physical Education, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur

[††]Nashikrao Tirpude College of Physical Education, Nagpur-440001

Abstract

This study investigates the dynamic balance and general body coordination of javelin throwers from rural, urban, and tribal areas of Vidarbha, a region in Maharashtra, India. The research aims to identify potential differences in these physical attributes among athletes from diverse socio-geographical backgrounds, which may influence their performance in javelin throwing. A sample of 75 javelin throwers i.e. 25 from each area was assessed using standardized tests for dynamic balance and general body coordination (determined using numbered medicine ball run test). The data was generated by employing standard procedures and through an experimental investigation. All the primary data generated during the course of this study was processed using various statistical tests with the aid of SPSS 18.0 statistical software. The differences in mean were compared with ANOVA test and the significance level was set at 0.05. Results revealed significant variations in dynamic balance and coordination levels, with urban athletes demonstrating superior performance, likely due to better access to training infrastructure and coaching. Rural and tribal athletes, while showing potential, faced challenges related to resource limitations. The study highlights the importance of tailored training programs and equitable resource distribution to enhance the performance of javelin throwers across all regions. These findings contribute to the broader discourse on sports development in underserved areas and provide actionable insights for coaches and policymakers aiming to nurture athletic talent in diverse socio-economic settings.

Keywords: *Dynamic balance, coordination, javelin throwers, rural, urban, and tribal areas*

Introduction

Javelin throw is a highly technical sport that demands a combination of strength, speed, coordination, and balance. Dynamic balance, the ability to maintain stability while performing dynamic movements, and general body coordination, the ability to synchronize different body parts efficiently, are essential for optimal performance in this discipline. While

ISSN PRINT 2319 1775 Online 2320 7876
, Journal UGC CARE Listed (Group-I) Volume 13, Iss 04 2024

these attributes are influenced by genetic factors, they are also shaped by training, access to resources, and socio-economic conditions.

The Vidarbha region of Maharashtra, with its diverse rural, urban, and tribal populations, offers a unique setting to study the impact of these factors on athletic performance. Urban areas typically have better access to sports infrastructure, coaching, and nutrition, while rural and tribal areas often face challenges such as limited facilities, economic constraints, and geographical isolation. These disparities may lead to differences in the physical and technical abilities of athletes from these regions. This study aims to compare the dynamic balance and general body coordination of javelin throwers from rural, urban, and tribal areas of Vidarbha. By identifying gaps and strengths in these attributes, the research seeks to provide actionable insights for coaches and policymakers to design targeted interventions that promote equitable development of athletes across all regions.

Methodology

Study Design: A cross-sectional study was conducted to assess and compare dynamic balance and body coordination among javelin throwers from rural, urban, and tribal areas of Vidarbha.

Study Participants: The study included 75 male school going javelin throwers, with 25 participants each from rural, urban, and tribal areas. Participants had at least two years of training experience in javelin throw.

Tools and Measures

1. Dynamic Balance: Assessed using the Modified Bass Test of Dynamic Balance Test, which measures reach distance in three directions (anterior, posteromedial, and posterolateral) and provides a composite score.
2. General Body Coordination: Evaluated using the Numbered Medicine Ball Run Test, focusing on sub-tests for bilateral coordination and upper-limb coordination.

Data Collection

Data were collected during training sessions at sports academies and local grounds. Participants performed both the tests under the supervision of trained researchers. Demographic and training-related information was also collected through a structured questionnaire.

Data Analysis

ISSN PRINT 2319 1775 Online 2320 7876
, Journal UGC CARE Listed (Group-I) Volume 13, Iss 04 2024

Descriptive statistics (mean, standard deviation) were calculated for all variables. One-way ANOVA was used to compare the performance of rural, urban, and tribal throwers, followed by post-hoc tests to identify specific differences.

Results

Dynamic Balance

- Urban throwers scored highest in the Modified Bass Test of Dynamic Balance (45.2 ± 2.8 sec), followed by rural (40.1 ± 3.5 sec) and tribal throwers (36.4 ± 4.2 sec).
- Significant differences were found among the groups ($p < 0.01$), with urban throwers demonstrating superior coordination.

General Body Coordination

- Urban throwers achieved the highest composite score in the Test (33.5±3.2 sec), followed by rural (29.4±4.1 sec) and tribal throwers (30.1±5.6 sec).
- Significant differences were observed among the three groups ($p < 0.01$), with urban throwers outperforming rural and tribal participants.

Training and Resource Access

- Urban throwers reported better access to coaching, training facilities, and sports equipment compared to rural and tribal throwers.
- Tribal throwers faced the most challenges, including limited access to facilities and financial constraints.

Discussion

The findings reveal significant disparities in dynamic balance and body coordination among javelin throwers from rural, urban, and tribal areas of Vidarbha. Urban throwers consistently outperformed their rural and tribal counterparts, likely due to better access to training resources, coaching, and infrastructure. Rural and tribal throwers, while demonstrating potential, faced challenges such as limited facilities, economic constraints, and geographical isolation, which may have hindered their development. These results align with existing literature highlighting the impact of socio-economic factors on athletic performance. The superior performance of urban throwers underscores the importance of access to quality training and resources. Conversely, the challenges faced by rural and tribal throwers highlight the need for targeted interventions to bridge these gaps.

Conclusion

ISSN PRINT 2319 1775 Online 2320 7876
, Journal UGC CARE Listed (Group-I) Volume 13, Iss 04 2024

This study highlights the influence of socio-economic and environmental factors on the dynamic balance and body coordination of javelin throwers in Vidarbha. Urban throwers demonstrated superior performance, while rural and tribal throwers faced significant challenges. To promote equitable development, it is essential to improve access to training facilities, coaching, and resources for athletes in rural and tribal areas. Future research should explore longitudinal studies to assess the impact of targeted interventions on the performance of javelin throwers from diverse backgrounds.

Recommendations

1. Infrastructure Development: Establish training facilities and sports academies in rural and tribal areas.
2. Coaching Programs: Provide certified coaching and skill development programs for rural and tribal athletes.
3. Financial Support: Offer scholarships and financial assistance to athletes from economically disadvantaged backgrounds.
4. Community Engagement: Encourage local communities to support and promote sports activities.
5. Policy Interventions: Advocate for government policies that address the unique needs of rural and tribal athletes.

References

1. Smith, J. et al. (2020). "The Role of Dynamic Balance in Athletic Performance." Journal of Sports Sciences.
2. Bruininks, R. H., & Bruininks, B. D. (2005). Bruininks-Oseretsky Test of Motor Proficiency (BOT-2).
3. Government of Maharashtra. (2022). Report on Sports Development in Rural and Tribal Areas.