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Impact of S.A.Q. Training on Volleyball Players' Skills

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Abstract

The study involved fifty junior male volleyball players from Raghogarh College, Madhya Pradesh. The dependent variable was volleyball skill performance, while the independent variables included quickness, agility, and speed. A randomized pre-test-post-test experimental design with both control and experimental groups was employed. Data were collected at three stages: before the training program, after six weeks, and after twelve weeks of training. The collected data were analyzed using the Analysis of Covariance (ANCOVA), with the level of significance set at 0.05.

Keyword: Volleyball, Quickness, Drill, Pre and Post test

Introduction

Speed, Agility, and Quickness (S.A.Q.) training has gained increasing popularity among athletes due to its effectiveness in enhancing athletic performance. Both athletes attending training camps and school students participating in sports can benefit from exercises designed to improve speed, agility, and quickness. Although this training method has been used for many years, its adoption remains limited because many athletes are unfamiliar with the drills involved. S.A.Q. training helps improve strength, speed, and the ability to generate maximum force during rapid movements. It also contributes to greater muscular strength in multidirectional activities, improved neuromuscular efficiency, enhanced kinesthetic awareness, better motor skills, and faster reaction times. The present study aimed to investigate the effect of S.A.Q. drills on the skills of junior volleyball players. The objectives of the study were: (i) to examine the overall influence of selected S.A.Q. drills on volleyball skill performance, and (ii) to provide effective training recommendations for junior volleyball players. It was hypothesized that participation in S.A.Q. drill training would lead to significant improvements in the skills of junior volleyball players.

Methodology

The present study was conducted on a sample of 50 junior male volleyball players from Madhya Pradesh who had

participated in Junior National and School National Championships organized by the Volleyball Federation of India (VFI) and the School Games Federation of India (SGFI). The participants were selected using a random sampling technique.

For the purpose of the study, volleyball skill performance was considered the dependent variable, whereas Speed, Agility, and Quickness (S.A.Q.) training constituted the independent variables. The study employed a randomized pre-test-post-test control group design to examine the effect of S.A.Q. training on the skill performance of junior volleyball players.

The training intervention was administered over a period of twelve weeks. Data were collected at three intervals: prior to the commencement of the training programme (pre-test), after six weeks of training (mid-test), and at the end of the twelve-week training period (post-test). The collected data were analyzed using the Analysis of Covariance (ANCOVA) to determine the effect of the S.A.Q. training programme on volleyball skill performance while controlling for initial differences between the groups. The level of statistical significance was set at 0.05 for testing all hypotheses.

Results

Tables Nos. 1 through 4 exhibit the findings of the analysis of covariance between the experimental group and the

control group on the pre- and post-test volleyball skills of junior players, respectively.

Table 1: ANCOVA on Junior Volleyball Players' Pre- and Post-Test Skills for the Experimental and Control Groups

Sources of Variations	DF	SS	SS	SS	SS	MSS	F-Value
		X	Y	XY	YX	YX	
Treatment Group Means	2-1=1	13.52	84.5	33.8	37.05	37.05	43.08**
Error	50-2-1=47	132.96	118	101.4	40.67	.86	
Total	48	146.48	202.5	135.2			

Table No. 1 showed that, in comparison to the tabulated value of 4.04 needed to be significant at the 0.05 level with 1/47 df, the obtained 'F' value of 43.08 was determined to be very significant at the 0.05 level with 1/47 df. The same chart showed that the junior volleyball players' adjusted means of a few chosen abilities differed significantly between the experimental and control groups. The least significant difference post hoc test was used to ascertain the significance of the difference between matched means since the differences were found to be very significant. Additionally, table No. 2 presents the L.S.D. analysis for paired means on volleyball skills.

Table 2: Paired Means of Junior Volleyball Players' Pre- and Post-Test Volleyball Skills between the Experimental and Control Groups

Group	Sample Size	M X	M Y	Adjusted Final Means	Mean Difference	Critical Difference
A. Experimental	25	22.4	24.6	24.06	1.53	.52
B. Control	25	21	22	22.53		

Table No. 2 investigation unequivocally shown that the experimental group subjected to treatment had an adjusted final mean score of 24.06, which is higher than the control

group's score of 22.53. The mean difference of 1.53, which is more than the crucial difference of 0.52 at the 0.05 level, was determined to be significant.

Table 3: ANCOVA of Junior Volleyball Players' Pre- and Intermediate Test Skills for the Experimental and Control Groups.

Sources of Variations	DF	SS	SS	SS	SS	MSS	F-Value
		X	Y	XY	YX	YX	
Treatment Group Means	2-1=1	13.52	67.28	30.16	18.31	18.31	45.77**
Error	50-2-1=47	132.96	154.72	134.24	19.19	.40	
Total	48	146.48	222	164.40			

Table No. 3 showed that, in comparison to the tabulated value of 4.04 needed to be significant at the 0.05 level with 1/47 df, the obtained "F" value of 45.77 was determined to be very significant at the 0.05 level with 1/47 df. The same chart showed that the junior volleyball players' adjusted means of a few chosen abilities differed significantly between the experimental and control groups.

The least significant difference post hoc test was used to ascertain the significance of the difference between matched means since the differences were found to be very significant.

Discussion

The findings of the study revealed that the experimental group demonstrated significantly greater improvement in volleyball skill performance than the control group after the 12-week training programme. The calculated F-value was approximately eleven times greater than the critical value required for statistical significance, indicating that the S.A.Q. (Speed, Agility, and Quickness) training programme had a substantial positive effect on the skill performance of junior volleyball players.

The marked improvement may be attributed to the fact that the participants were introduced to S.A.Q. training for the first time. As a structured and scientifically designed training method, S.A.Q. drills provide a novel stimulus that promotes rapid adaptation among beginners. This observation is consistent with the principles outlined by Hardy Singh in *Science of Sports Training*, which state that novice athletes generally adapt more quickly to new training stimuli than experienced athletes.

The results further indicated that the improvement observed between the pre-test and the 6-week assessment was greater than that recorded between the 6-week and 12-week assessments. This suggests that the initial phase of training produced the most rapid gains in performance. Such

improvement may be associated with the physical, physiological, and psychological development characteristic of junior athletes, enabling them to respond more effectively to unfamiliar training methods. This finding also supports the learning principles described by M.L. Kamlesh in *Psychology in Physical Education and Sports*, where the learning curve is characterized by rapid initial improvement followed by a gradual reduction in the rate of progress as proficiency increases.

Although significant improvements continued during the second phase of training (6 to 12 weeks), the rate of improvement was comparatively lower than during the initial phase. This reduction may be explained by the stabilization of neuromuscular coordination and motor patterns resulting from repeated practice. According to Harre (1986), prolonged repetition of identical speed exercises can produce a "motor stereotype" or speed barrier, in which the central nervous system becomes accustomed to a specific movement pattern and limits further increases in movement speed. Therefore, while repeated speed training enhances performance, excessive repetition of the same drills may reduce the potential for continued improvement. These findings emphasize the importance of regularly modifying training stimuli to maintain performance gains and avoid training plateaus.

Conclusion

Based on the findings of the study and within the limitations of the investigation, it was concluded that the S.A.Q. training programme significantly improved the skill performance of junior volleyball players. The experimental group achieved significantly better results than the control group throughout the training period.

The greatest improvements were observed during the first six weeks of training, indicating that beginner athletes respond rapidly to S.A.Q. drills. Continued training beyond six weeks

resulted in further enhancement of skill performance, although the rate of improvement gradually declined. Overall, the experimental group's improvement from the pre-test to the post-test was approximately eleven times greater than that of the control group.

The findings suggest that incorporating S.A.Q. drills into the regular training programme of junior volleyball players can effectively enhance their skill performance. Therefore, coaches and physical education professionals are encouraged to integrate S.A.Q. training into volleyball coaching programmes to maximize skill development and overall athletic performance.

References

1. Bassett G, Glassow R, Locke M. Studies in Testing Volleyball Skills. Res Q, 1937, 8.
2. Beise D, Peaseley V. The Relationship of Reaction Time, Speed and Agility of Big Muscle Groups to Certain Sport Skills. Res Q, 1937, 8.
3. Brown LE, Ferrigno VA, Santana JC. Training for Speed, Agility and Quickness. USA; c2000.
4. Jeenet CW. An Investigation of Tests of Agility. Completed Res Health Phys Educ Recreat, 1960, 2.
5. Jon A. Volleyball Do it this Way. London: John Murry; c1964.
6. Mohr DR, Haverstick MJ. Relationship between Height, Jumping Ability and Agility to Volleyball Skills. Res Q, 1956, 27.
7. Nicholls K. Modern Volleyball. London: Lepus Book; c1979.
8. Pearson A. Speed, Agility and Quickness. London: A & C Black; c2001.
9. Phipps FJ. Comparisons of Selected Factors of Predictive of Volleyball Playing Ability. Diss Abstr Int, 1982, 42.
10. Singh H. Science of Sports Training. New Delhi:D.V.S. Publications; c1993.
11. Singh SG. Volleyball: Basic and Advance. Chandigarh: Publishers of Sports Literature; c1982.
12. Steitz ES. The Relationship of Reaction Time, Speed, Sargent Jump, Physical Fitness and Other Variables to Success in Specific Sports. Completed Res Health Phys Educ Recreat, 1964, 6.
13. Thomas JR, Nelson JK, Silverman SJ. Research Methods in Physical Activity. USA; c2005.
14. Thomas S. A Comparison of the Relationship between Running Speed and Agility. Completed Res Health Phys Educ Recreat, 1968, 10.
15. Toyoda H. Training Theory for Volleyball in Japan. Scarborough: Canadian Volleyball Association Publication; c1971.

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