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Comparative study of angular kinematical variables during running hand touch skill among different level kabaddi players

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Abstract

The objective of the study was to compare angular kinematical variables during running hand touch skill execution between Inter-University and Inter-College level Kabaddi players of LPU. The total sample were comprised of six (three Inter-University +three Inter-College level) subjects. Six male Kabaddi players were selected from Lovely Professional University, Phagwara (Punjab). The age of the subjects ranged between 18 to 25 years. With regard to purpose of the study, Independent t-test statistical technique was applied for selected angular kinematic variables between Inter-University and Inter-College level Kabaddi players. The level of significance was set at 0.05 level. The results showed that there was no significant difference of shoulder joint angle, knee joint angle of leading-leg during running hand touch skill execution between Inter-University and Inter-College level Kabaddi players. The study concludes that- Angular Kinematic variable: Shoulder joint angle did not significantly vary in running hand touch skill between Inter-University and Inter-College level LPU Kabaddi players. Angular Kinematic variable: Knee-joint angle of leading-leg, did not significantly vary in running hand touch skill between Inter-University and Inter-College level LPU Kabaddi players.

Keywords: Kabaddi, angular kinematic variables, joint angle

Introduction

Skill is the capacity to execute any movement with no flaw. It is the essential necessity to carry out any responsibility and Analysis is a partition of entire action into its segment parts. In analysis, skill is analyzed that how it was happened and what should be possible to improve it. It is the mystery of improvement.

Kabaddi is an Indigenous game which is played between two teams in a rectangle shape formed ground. There are such a large number of skills exists which are utilized by Kabaddi players during the game to dominate the match and to exploit by applying least vitality and those skills can be named Offensive skills like Running Hand Touch, Toe Touch and so on and Defensive Skills like Ankle Hold, Thigh Hold and so on. Running Hand Touch Skill is an Offensive skill which is performed by each Raider. Henceforth, the motivation behind the investigation was to analyze the Running hand touch skill execution pattern of Inter-University and Inter-College level Kabaddi players.

Methodology

Selection of Subjects: For the purpose of the study total six samples, three Inter-University and Inter-College level Kabaddi player were selected from Lovely Professional University, Phagwara (Punjab). The age of the subjects ranged between 18 to 25 years.

Selection of Variables: The following selected Kinematic Variables were selected for this study.

Angular Kinematic Variables

- i) **Shoulder Joint Angle:** shoulder joint angle was measured by using Motion Analyzer Software-‘Kinovea’ (Version-0.8.25) after obtaining the data with Two digital cameras Sony 80D (23.98 fps) and 60D (25 fps)

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- ii) **Knee Joint Angle of leading leg:** knee joint angle of leading leg was measured by using Motion Analyzer Software- 'Kinovea' (Version-0.8.25) after obtaining the data with Two digital cameras Sony 80D (23.98 fps) and 60D (25 fps)

Statistical Technique

Independent t-test technique was employed by the SPSS version 20. Level of significance was set at 0.05.

Results and Findings

Different types of descriptive statistic such as mean and standard deviation was computed to describe each variable statistically. Its results have been depicted in the following tables.

Table 1: The difference between Shoulder Joint Angle during running hand touch skill execution between Inter-University and Inter-College level Kabaddi players.

Group	N	Mean	SD	t-value
Inter-University Kabaddi Players	3	122.33	15.57	0.52
Inter-College Kabaddi Players	3	133.67	34.53	

Tabulated value at DF 4 = 2.78 *significant at 0.05 level

Table-I shows the mean and standard deviation values with regard to Inter-University Kabaddi players is 122.33 ± 15.57 whereas in the case of Inter-College level Kabaddi players is 133.67 ± 34.53 respectively. The calculated value of 't' (0.52) which is less than the tabulated value of 't' (2.78) at .05 level. So, it demonstrates that there is an insignificant difference for shoulder joint angle between Inter-University and Inter-College level Kabaddi players during the execution of running hand touch skill.

Table 2: The difference between Knee Joint Angle of leading-leg during running hand touch skill execution between Inter-University and Inter-College level Kabaddi players.

Group	N	Mean	SD	t-value
Inter-University Kabaddi Players	3	159.67	12.34	1.48
Inter-College Kabaddi Players	3	144.33	12.9	

Tabulated value at DF 4 = 2.78 *significant at 0.05 level

Table 2 shows the mean and standard deviation values with regard to Inter-University Kabaddi players is 159.67 ± 12.34 whereas in the case of Inter-College level Kabaddi players is 144.33 ± 12.9 respectively. The calculated value of 't' (1.48) which is less than the tabulated value of 't' (2.78) at .05 level. So, it demonstrates that there is an insignificant difference for knee joint angle of leading-leg between Inter-University and Inter-College level Kabaddi players during the execution of running hand touch skill.

Discussion

The execution phase of Running hand touch skill had only analyzed in this study. There was no significant difference found in shoulder joint angle and knee joint angle of leading-leg between Inter-University and Inter-College level Kabaddi players. It may be probably due to the reason that, any skill's competitive execution depends upon many of the other related factors. In this study the skill was performed in isolation (shadow technique: demonstration) which does not highlight other related factors.

Another reason may be that the skill performance may depend upon game specific situation of athlete which comprises of mental, technical and tactical composer, which were again

missing due to execution of skill in isolation for elite and non-elite Kabaddi players.

Shen *et al.* (2010) also conducted a study on "Throwing Kinematics in Youth Pitchers and Field Players" and had revealed that, there was no significant differences in shoulder abduction angle at foot strike, maximum elbow flexion angle, shoulder abduction angle at ball release, between the youth pitchers and field players. Running hand touch skill angular kinematic variables observed in this study were similar between youth pitchers and field players.

Conclusion

It was observed that there were insignificant differences between Inter-University and Inter-College level Kabaddi Players for their selected Angular Kinematical Variables i.e. Shoulder Joint Angle, Knee Joint Angle of Leading-leg.

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