
Analysis of the Dominating Power of Serve in Volleyball in Different Levels of Competitions

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Abstract: The present study assessed that in different level (district, state, national & international) of Volleyball game or competition how the skills 'serve' played a dominating role was observed. The videos of semi-final and final game of these four levels were taken (2014-15). Skills were measured by Volleyball Information System (VIS). The result indicated that the serve skill of international level was more dominant than national, state and district level skill.

Keyword: *Volleyball, serve skill and Competition*

Introduction:

Skills play a very important role in volleyball. To make the game more effective, it is very necessary to develop all the skills. Service is a very important skill in Volleyball. The matches in which, all these skills as well as serve are presented very skilfully and effectively, have become the more interesting and splendid matches. So, it should be the only aim of the volleyball players to develop these basic skills as well as service, it is the only way to increase its graph.

Method:

The present study was conducted in Hooghly district, West- Bengal state, India and International level senior male Volleyball team (2014-15). Semi-final and final game only. Criterion measure:-The skill, serve measured by Volleyball Information System (VIS). The evaluation method of serve; when rally continues in serve there was no evaluation and when

rally ends, if there was succeed then ‘+’ if there was faults then ‘-’. Measuring criteria and formula was Average per set = service success/total sets played (by the team). Analytical techniques:- To analysis of the dominating power of serve in Volleyball in different level (district, state, national, international) competitions, one way ANOVA was computed using Microsoft excel and SPSS software version 20. The level of significant was set as 0.05.

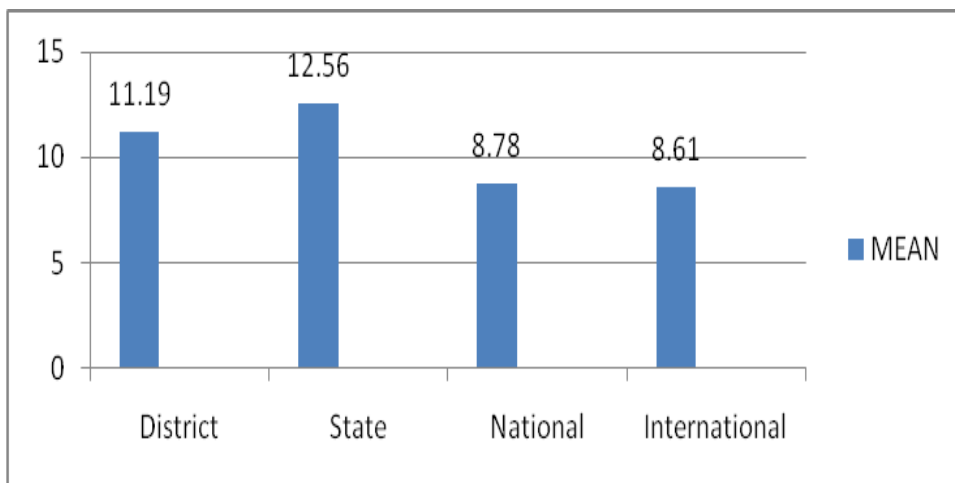
Finding and Results:

The findings data of different (district, state, national and international) level in volleyball skill, serve described below:-

| SKILL | Level of game | Mean | Std. Deviation | Std. Error | Minimum | Maximum |
|-------|---------------|------|----------------|------------|---------|---------|
| SERVE | District | 0.67 | 0.29 | 0.17 | 0.50 | 1.00 |
| | State | 0.78 | 0.19 | 0.11 | 0.67 | 1.00 |
| | National | 0.80 | 0.35 | 0.20 | 0.40 | 1.00 |
| | International | 2.14 | 0.78 | 0.45 | 1.25 | 2.67 |

Table 1 shows that the mean of serve’s average per set in district, state, national and international level senior male volleyball team was 0.67 ± 0.29 , 0.78 ± 0.19 , 0.80 ± 0.35 and 2.14 ± 0.78

Graphical representation of serve skill in Volleyball



| | | Sum of squares | df | Mean square | F-ratio | Sig. |
|-------|---------------|----------------|----|-------------|---------|-------|
| serve | Between Group | 4.385 | 3 | 1.462 | 6.953* | 0.013 |
| | Within Groups | 1.682 | 8 | 0.210 | | |
| | Total | 6.067 | 11 | | | |

It seems that the between group, sum of squares was 4.385, degree of frequency (df) was 3, mean square was 1.462 and within groups, sum of square was 1.682, degree of frequency (df) was 8, mean square was 0.210 and total sum of squares was 6.067, total degree of frequency (df) was 11. The between and within groups of F-ratio was 6.953 and significant level was 0.013 so, the serve of between and within groups significant at 0.05 levels. Post-hoc test is done to comprehend which is the better group among the groups who possess the significance, (LSD) because everyone's 'N' is equal.

| Dependent Variable | Group | Group | Mean Difference | Std. Error | Sig. |
|-----------------------------|----------|---------------|-----------------|------------|-------|
| Serve | District | State | 0.11333 | 0.37437 | 0.770 |
| | | National | 0.13333 | | 0.731 |
| | | International | 1.47333* | | 0.004 |
| | State | National | 0.02000 | | 0.959 |
| | | International | 1.36000* | | 0.007 |
| | National | International | 1.34000* | | 0.007 |
| *.Significant at 0.05 level | | | | | |

Table 3 indicated that the Post-hoc (LSD) test of serve. It seems that the mean difference of district & state level was 0.11333 which was significant at 0.770 level. The mean difference of district & national level was 0.13333 which was significant at 0.731 level. The mean difference of district & international level was 1.47333 which was significant at 0.004 level. The mean difference of state & national level was 0.02000 which was significant at 0.959 level. The mean difference of state & international level was 1.36000 which was significant at 0.007 level. The mean difference of national & international level was 1.34000 which was

significant at 0.007 level. The above table 10 also shows that the skill serve, there were significant differences between district and international, state and international, national and international on average per set at also 0.05 level. District and state, district and national, and state and national level of skills average per set was not significant at 0.05 level.

Conclusion:

1. The serve skill of international level is more dominant than national, state and district level's serve skill.
2. In national level serve skill is more dominating than district and state level, but not more dominating than international level.
3. In state level serve skill is more dominating than district level, but not more dominating than national and international level.
4. In district level serve skill is not more dominating than the serve skill of national, state and district level's skill.

Reference:

1. Humski, L., & Skocir, Z. (2011). Volleyball Information System (V.I.S.). IEEE Publisher, 12144337.
2. Marcelino, R., Mesquita, I., & Sampaio, J. (2011). Match status on technical and tactical performances in volleyball. *Journal of Sports Sciences*, 29(7), 733–741.
3. Marcelino, R. O., Sampaio, J. E., & Mesquita, I. M. (2012). Attack and serve performance in elite volleyball. *Journal of Strength and Conditioning Research*, 26(12), 3385–3391.
4. Quiroga, M. E., García-Manso, J. M., Rodríguez-Ruiz, D., Sarmiento, S., De Saa, Y., & Moreno, M. P. (2010). Relation between game role and service characteristics in volleyball. *Journal of Strength and Conditioning Research*, 24(9), 2316–2321.
5. Peña, J., Rodríguez, N., Buscá, B., & Serra, N. (2013). Skill factors for winning men's volleyball. *Journal of Strength and Conditioning Research*, 27(9), 2487–2493.
6. Silva, M., Lacerda, D., & João, P. V. (2014). Volleyball skills influence victory. *Journal of Human Kinetics*, 41, 173–179.
7. González-Silva, J., Domínguez, A. M., Fernández-Echeverría, C., Rabaz, F. C., & Arroyo, M. P. (2016). Analysis of setting efficacy in volleyball players. *Journal of Human Kinetics*, 53, 189–200.