



International Journal of Physical Education, Sports and Health

P-ISSN: 2394-1685
E-ISSN: 2394-1693
Impact Factor (RJI): 5.38
IJPESH 2024; 11(5): 301-303
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<https://www.kheljournal.com>
Received: 20-08-2024
Accepted: 26-09-2024

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The impact of service training using kick pad on the quadrant service accuracy in sepak takraw

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DOI: <https://doi.org/10.22271/kheljournal.2024.v11.i5e.3532>

Abstract

(This study aims to determine the impact of the service training model using a kick pad on the accuracy of the quadrant service in sepak takraw games for PPLP (Center for Student's Sport Education and Training) Gorontalo athletes. Quadrant is one of the new numbers in sepak takraw games, which is also a mainstay of the Indonesian team. One of the crucial elements or factors for achieving an achievement in sports is the training model. The training model greatly impacts the development of athlete skills, especially in terms of service. This study employed an experimental design, particularly the one-group pretest-posttest design. The subjects in this study were 10 Sepak takraw athletes. The measuring instrument used was a service test based on the PPLP Skills Test Guidelines and Norms (2018). Meanwhile, data analysis used descriptive and inferential statistical tests. The study's findings indicated a significant increase, where the t-count value was greater than the t-table value ($t\text{-count} = 4.33 > t\text{-table} = 1.812$) referring to the test criteria that reject H_0 : If $t\text{-count} > t\text{-table}$ at $\alpha = 0.05$; $n-1$. Therefore, the alternative hypothesis or H_a is confirmed because the t-count value is outside the H_0 confirmation area. Thus, in brief, service training using a kick pad has significantly increased the accuracy of quadrant service in playing sepak takraw by PPLP Gorontalo athletes.

Keywords: Service using kick pad, quadrant, service accuracy, sepak takraw

1. Introduction

Sepak takraw is a team game played by three players, and it is a combination of 2 forms of sports, namely football and volleyball. According to Hanafi (2016) ^[8], sepak takraw is a type of traditional game developed and mainly known by the Indonesian people. The interesting thing about this sport is that the facilities and infrastructure are cheap and simple. Zulman (2018) ^[9] elucidated that every sepak takraw player needs to master basic techniques to play this sport. Sepak takraw possesses various basic techniques, including serving, kicking, smashing, and defending (Rosti, 2020) ^[10, 11]. In sepak takraw, a player must be good at basic techniques, which is one of the requirements for becoming a good and reliable sepak takraw player (Rosti *et al.*, 2020) ^[10, 11]. In line with this Sya'ban1 & Heru Syarli Lesmana (2020) ^[4] also revealed that to play sepak takraw skillfully, each player must master the basic technical skills, namely, kicking (*Sepak sila* or inside kick, *sepak kura* or instep kick, *sepak cukil* or instep/toe kick, *menapak* or foot sole kick, and *sepak badek* or outside kick), playing with the head, chest, grasping, shoulder and special techniques, namely, service, receiving the ball, passing, smashing and blocking.

Sepak takraw is often called an acrobatic sport because of its movement skills involving balance, agility, and motor coordination. As Yunitaningrum *et al.* (2020) ^[13] expressed, sepak takraw has very specific characteristics compared to other sports, which contain acrobatic elements. Sepak takraw games generally use all parts of the body, except for the arms, so they require better techniques from each player in order to be skilled on the field in their implementation, both in training and in matches (Yusuf (Natal, YR & Teja: 2021: 3) ^[14].

Of the several basic techniques previously mentioned, each has ideal characteristics for performing the technique, including the service technique as an initial attack in sepak takraw games. As stated by Hanif (2015: 76) ^[15], good service is an upper service with the ball hitting more in front of the initial service position so that it produces a harder ball and enters closer to the net, which is relatively more difficult for the opponent to receive.

Thus, for a service using high legs, it will be very effective to produce a hard and incoming service so that it is difficult for the opponent to receive. The final target of the many service techniques should be a fast and sharp service (Spike service). This is because a fast and sharp service is not only a sign of the start of a match or as a sign of the continuation of a game but is expected to break the opponent's defense and can also make points. Sepak takraw achievements of PPLP Gorontalo Province athletes have experienced ups and downs in winning a match both at the National and International levels. Meanwhile, it is fairly good when viewed from the aspect of player cooperation on the field. After being observed on the field and during the match, it turns out that this happened because the service performed by PPLP Gorontalo Province Athletes was a freestyle serve while the opponent performed a hard and sharp kickoff and placed the first ball on the opponent's field at a high level of difficulty, especially the service performed in the quadrant and double event numbers. Thus, there is a problem with the accuracy of the quadrant service performed by PPLP Gorontalo athletes where the service produced has not been able to produce points effectively because the service given by the athlete remains directed right at the opponent's position ready to defend so that the ball can be easily received and processed into an attack. The ability to direct the service plays a very significant role in the quadrant game because quadrant players consist of 4 (Four) people in each team, so the service is likely to be anticipated. For that, the service performed must be right on target. To obtain sharp and targeted service results, special drills are needed using the right training methods and models. This is crucial to do in sepak takraw due to service is the opening weapon or initial attack in confusing the opponent's game pattern. For that, each player must be able to regulate how strong the swing of the leg is when serving and direct the service to the right target. The success of serving is determined by the method used and the training model developed, especially in the quadrant number. This is because, in the sepak takraw game, each player must consistently demonstrate ingenuity in identifying a target area that is beyond the opposing player's reach to ensure that the service yields points.

In relation to the above, one form of service training in the quadrant sepak takraw game can be used in the form of service training using a kick pad. Namely, athletes are asked to hit the kick pad held by the coach in turns. This training is a variation of service training as has been done by Blasius Rengge., *et al.* (2022) ^[3] entitled "Development of the Sepak Takraw Upper Service Training Model as a Form of Sepak Takraw Extracurricular Training Activity" which developed a service training model including ball targeting training (Targeting without a ball, targeting using a ball). The study has met the category of "suitable" for use as basic service technique training based on the assessment results from the validator.

In accordance with the study's findings above, it can be concluded that training using a kick pad can improve accuracy in basic service techniques. In this case, static kick pads have been proven to facilitate athletes to train the accuracy of hitting the ball on the foot and, at the same time, train how to swing the leg. This drill must be done repeatedly with the amount of time duration and repetitions increasing periodically in each training session. So the impact of service training using a kick pad on the accuracy of service in the sepak takraw game of quadrant numbers in PPLP Athletes of Gorontalo Province will be noticeable.

2. Materials and Methods

In this study, the researchers applied one group pre-test-post-test design. As an experimental study, it was conducted strictly to determine the causal relationship between variables. One of the main characteristics of this study is the treatment given to the research subjects. The study was conducted on the sepak takraw field of the Center for Student's Sports Education and Training (PPLP) of Gorontalo Province with a population of 10 male sepak takraw athletes. In the meantime, as its samples were determined through total sampling, the number was the same as the population. The variables in this study consisted of 1 independent variable and 1 dependent variable. The independent variable was the service training model using a kick pad (X), and the dependent variable was the accuracy of the quadrant service (Y). The instrument in this study used a service test (Implementation Guide of Skill Test and Norma of PPLP 2018: 231-232). The data analysis technique from the results of the pre-test and the post-test of the accuracy of the quadrant service was then analyzed using descriptive and inferential statistical tests.

3. Results and Discussion

3.1 Results

Table 1: Quadrant service accuracy

| Quadrant Service Accuracy | | | | | |
|---------------------------|----|------|----------------------------|------------------------|---------------------|
| Data | N | Mean | Variance (S ²) | Standard Deviation (S) | Mean Difference (d) |
| Pre-test | 10 | 8,6 | 9,37 | 3,06 | 5,2 |
| Post-test | | 13,8 | 5,73 | 2,39 | |

Based on the study's findings and result analysis of pre-test data on service accuracy in sepak takraw games in male athletes of PPLP Gorontalo, the total number of pre-test data on quadrant service accuracy was 86. The mean value was 8.6, the variance was 9.37, the standard deviation was 3.06, and the number of samples was N=10. As a requirement in the inferential statistical test, the provisions in testing the data must be normally distributed. The normality test results of the pre-test data on quadrant service accuracy obtained a difference value. In addition, the highest difference value or L count (Lc) was obtained from the calculation, namely 0.1995. Based on the critical value table of L Liliefors Test at $\alpha = 0.05$; N=10, L table or (Lt) was found to be 0.258, so L count (Lc) was smaller than Lt. The test criteria state that if $Lc \leq Lt$, then H₀ is confirmed or the data are normally distributed. In the meantime, based on the study and analysis of post-test data on service accuracy in sepak takraw games in male athletes of PPLP Gorontalo, the total number of post-test data on quadrant service accuracy was 138. The mean value was 13.8; variance was 5.73 standard deviation was 2.39 and the number of samples was N=10.

The t-test was conducted to determine whether service training using a kick pad had an impact on the accuracy of service in sepak takraw games for PPLP Gorontalo athletes. Based on the calculation results, the t count = 4.33 was greater than the t table value or t table at $\alpha = 0.05$; DF = n-1 (10-1=9) obtained the t table value = 1.812. Thus, the t count is greater than the t table, and the test criteria state that H₀ is rejected if t count (tc) > (tt); therefore, the alternative hypothesis H_a can be confirmed, or an impact is identified.

4. Discussion

The increase in quadrant service accuracy due to the provision of treatment or service training using kick pads on sepak

takraw athletes of PPLP Gorontalo is observable based on the pre-test and post-test data on quadrant service accuracy which shows a difference, in the average post-test data on quadrant service accuracy is greater than the average pre-test data on quadrant service accuracy. The average pre-test data on quadrant service accuracy is 8.6, while the average post-test data on quadrant service accuracy is 13.8. The mean difference between post-test data and pre-test data (d) is 5.2, indicating an increase in quadrant service accuracy of 62% after being given a service training program using kick pads.

Thus, the study's findings confirmed that, after being treated for four weeks, a frequency of six times per week with a service training program using a kick pad, the accuracy of the quadrant service increased significantly. This result is observable from the paired observation t-test where the test results obtained $t\text{-count} = 4.33$. The t table value at $\alpha = 0.05$; $DF = n-1$ ($10-1=9$) obtained a value of 1.812. Thus, the t count is greater than the t table ($t\text{-count} = 4.33 > t\text{-table} = 1.812$). Based on the test criteria, H_0 is rejected if t count $>$ t table at $\alpha = 0.05$; $n-1$, therefore the alternative hypothesis or H_a can be confirmed because the t count value is outside the H_0 confirmation area. Thus it can be stated that there is an impact of service training using a kick pad on increasing the accuracy of the quadrant service in the sepak takraw game of PPLP Gorontalo athletes.

5. Conclusions

In reference to the previous elaboration, it can be concluded that service training using kick pad has a positive impact on increasing the accuracy of quadrant services in sepak takraw by 10 PPLP Gorontalo athletes. This increase is observable from the mean difference between pre-test and post-test data (d) of 5.2. This shows an increase in the accuracy of quadrant services by 62% after being given a service training program using kick pad. To conclude, this service training model using kick pad can be applied to sepak takraw athletes who aim to improve their service accuracy, especially in the quadrant number.

6. Acknowledgments

The researchers express gratitude to the Sepak Takraw instructors and athletes of PPLP Gorontalo for their permission and contributions, which facilitated the smooth execution of this research, as well as to all parties that assisted in its completion.

7. References

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