



The Effect Of Ball Handling And Wall Volley Training On Underhand Passing Skills In Sumbawa Volleyball Club Players

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Abstract

Objectives: This study aimed to determine the effect of ball handling and wall volley training on underhand passing skills among Sumbawa Volleyball Club players in 2023.

Materials and Methods: This study used an experimental method with a two-group pretest–posttest design. The population consisted of 20 male volleyball players from Sumbawa Volleyball Club, and all players were used as the sample. The participants were divided into two groups: the ball handling training group and the wall volley training group, with 10 players in each group. The instrument used was an underhand passing skill test conducted for 60 seconds. Data were analyzed using SPSS version 22, including normality tests, homogeneity tests, and paired sample t-tests.

Results: The results showed that ball handling training significantly improved underhand passing skills, with $t = -3.161$ and $p = 0.012$. Wall volley training also significantly improved underhand passing skills, with $t = -3.367$ and $p = 0.012$. These results indicate that both training methods had a significant effect on improving players' underhand passing ability.

Conclusions: Ball handling and wall volley training are effective methods for improving underhand passing skills in volleyball players. Ball handling improves ball control and touch, while wall volley training increases passing accuracy, repetition, and consistency. Therefore, both methods can be used as alternative training models for volleyball coaches.

Keywords: ball handling, wall volley, underhand passing, volleyball, training method

Introduction

Volleyball is one of the most popular team sports in schools (Bachtiar et al., 2024; González-Silva et al., 2020; Sutiyono et al., 2021), clubs, and communities because it requires simple equipment and provides enjoyable physical activity. Volleyball is played by two teams separated by a net, with the main objective of sending the ball over the net into the opponent's area while preventing the ball from falling in one's own court. Although volleyball is a team sport, individual technical mastery is essential because each player's skill contributes to the quality of team performance (David J. Smith, 2003; Raya-Castellano & Uriondo., 2015; Vealey, 2024).

One of the most fundamental techniques in volleyball is passing (Al-Dabbagh, 2022; Tao et al., 2024). Passing is important because it is used to receive serves, defend against attacks, organize the first ball, and build an effective offensive pattern. Underhand passing is especially important because it is



commonly used to receive the opponent's serve or spike. Poor underhand passing may disrupt team coordination and reduce the quality of set-up and attack.

In actual volleyball practice, many players still experience difficulties in underhand passing. Common problems include incorrect arm position, poor body posture, lack of concentration, nervousness, inaccurate ball direction, and weak control when receiving the ball. These problems show that systematic and repetitive training is needed to improve passing accuracy and consistency.

Ball handling is one form of training that can improve ball control. (Allen & Ross, 2013; Cheon et al., 2018; Permana et al., 2022) This exercise allows players to develop better touch, control, and familiarity with the ball. Through frequent contact with the ball, players become more confident and accurate in directing the ball during passing. stated that ball handling supports mastery of basic volleyball skills because it trains players to control the ball rather than being controlled by the ball.

Another training method that can be used to improve underhand passing is wall volley. Wall volley is a passing exercise performed by bouncing the ball against a wall. This method gives players repeated opportunities to perform passing movements, correct body position, and improve passing accuracy. Previous studies have shown that wall-based passing exercises can improve volleyball passing skills, including research Pelamonia and Firnanda (2021), and Saputra (2022) (Nurfani et al., 2022; Samsudin et al., 2023).

Based on observations at Sumbawa Volleyball Club, several players still showed weaknesses in underhand passing. Training tended to emphasize attacking skills, while basic passing techniques received less attention. Therefore, this study was conducted to determine the effect of ball handling and wall volley training on underhand passing skills among Sumbawa Volleyball Club players in 2023.

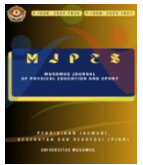
Materials and Methods

Study Participants

(Sugiyono, 2012) The population of this study consisted of all male players of Sumbawa Volleyball Club in 2023, totaling 20 players. Because the population was relatively small, all players were included as research participants. The sample was divided into two groups: 10 players in the ball handling training group and 10 players in the wall volley training group.

Study Organization

This study used an experimental method with a two-group pretest–posttest design. The research was conducted to examine the effect of two different training methods on underhand passing skills. Before the treatment, all participants completed a pretest using an underhand passing skill test. After the training program, participants completed a posttest using the same test.



The ball handling group received training focused on ball control, repeated ball contact, and underhand passing movement patterns. The wall volley group received training by performing underhand passing against a wall to develop accuracy, consistency, and control.

Instrument

The instrument used in this study was an underhand passing test. The test was performed for 60 seconds. A passing attempt was considered valid when the ball reached the required height and was performed within the specified area. The score was determined based on the number of successful underhand passes during the test period.

Statistical Analysis

The data were analyzed using SPSS version 22. The analysis included a normality test, homogeneity test, and paired sample t-test. The normality test was used to determine whether the data were normally distributed, while the homogeneity test was used to determine whether the variance of the data was homogeneous. The paired sample t-test was used to determine whether there was a significant difference between pretest and posttest scores. The significance level was set at $p < 0.05$.

Results

Ball Handling Group

The results of the paired sample t-test showed that the ball handling training group experienced a significant improvement in underhand passing skills. The significance value was $p = 0.012$, which is lower than 0.05. This means that there was a significant difference between the pretest and posttest scores.

Table 1. Paired Sample t-Test Result of Ball Handling Training

Group	Mean Difference	df	Sig. (2-tailed)	Interpretation
Pretest–Posttest Ball Handling	-1.100	-3.161	0.012	Significant

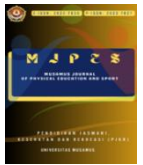
The result indicates that ball handling training had a significant effect on improving underhand passing skills among Sumbawa Volleyball Club players.

Wall Volley Group

The wall volley training group also showed a significant improvement in underhand passing skills. The paired sample t-test showed a significance value of $p = 0.012$, which is lower than 0.05. This result indicates that wall volley training significantly improved the players' underhand passing ability.

Table 2. Paired Sample t-Test Result of Wall Volley Training

Group	Mean Difference	df	Sig. (2-tailed)	Interpretation
Pretest–Posttest Wall Volley	-1.100	-3.367	0.012	Significant



Based on these findings, both ball handling and wall volley training significantly improved underhand passing skills.

Discussion

The findings of this study show that ball handling training significantly improved underhand passing skills among Sumbawa Volleyball Club players. This improvement occurred because ball handling exercises provide players with repeated opportunities to touch, control, and direct the ball. Frequent ball contact helps players develop better coordination between the arms, eyes, and body movement. This supports the statement of Widyanti and Izzuddin (2022), who explained that ball handling is useful for improving ball mastery and basic volleyball control.

The improvement in the ball handling group is also consistent with Juniaturrahman (2016), who stated that repeated ball control exercises can improve passing ability because players become more familiar with the rhythm, direction, and rebound of the ball. In volleyball, the quality of underhand passing depends not only on arm position but also on timing, body balance, and the ability to direct the ball toward the intended target.

The wall volley group also showed significant improvement. This result indicates that wall volley is an effective training method for improving underhand passing accuracy and consistency. Wall volley provides continuous repetitions because the ball rebounds from the wall, allowing players to practice passing movements many times in a short period. This finding is in line with Auni (2018), who reported that wall bounce or wall volley training improved underhand passing skills in volleyball. Similar findings were also reported by Isbahi et al. (2020), who found that wall volley training had a positive effect on underhand passing accuracy.

The effectiveness of wall volley training can be explained by its repetitive and corrective nature. When players pass the ball to the wall, they receive direct feedback from the direction and rebound of the ball. If the passing angle is incorrect, the ball will not return properly. This condition helps players correct their movement automatically. Pelamonia and Firnanda (2021) also found that wall-based passing exercises using target lines improved underhand passing ability because the exercise trained both accuracy and movement consistency.

The results of this study are also supported by Saputra (2022), who found that wall volley training significantly improved underhand passing ability in volleyball extracurricular participants. In addition, Ardhi et al. (2022) reported that Brumbach forearms pass-wall-volley training improved underhand passing ability among junior high school students. These findings strengthen the evidence that wall-based passing exercises are useful for developing volleyball passing skills.

Overall, both ball handling and wall volley training were effective because both methods



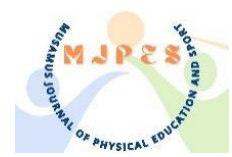
emphasize repetition, ball control, movement coordination, and passing accuracy. Ball handling is more focused on improving ball mastery and touch, while wall volley is more focused on repeated passing accuracy and directional control. Therefore, coaches may combine these two methods in volleyball training programs to improve underhand passing skills more comprehensively.

Conclusions

Ball handling training significantly improved underhand passing skills among Sumbawa Volleyball Club players. Wall volley training also significantly improved underhand passing skills. These findings indicate that both training methods are effective for developing basic volleyball passing ability. Ball handling can be used to improve ball control and confidence, while wall volley can be used to improve accuracy, repetition, and passing consistency. Therefore, both methods are recommended as alternative training models for volleyball coaches, especially in improving underhand passing skills.

References

- Al-Dabbagh, A. A. (2022). *Coaching Practices in Elite Volleyball in Iraq: A Mixed Methods Case Study*. Griffith University. <https://doi.org/10.25904/1912/4621>
- Allen, R., & Ross, C. M. (2013). An Assessment of Proximity of Fitness Facilities and Equipment and Actual Perceived Usage by Undergraduate University Students: A Pilot Study. *Recreational Sports Journal*, 37(2), 123–135. <https://doi.org/10.1123/rsj.37.2.123>
- Bachtiar, B., Rihatno, T., Samsudin, S., Dlis, F., Tangkudun, J., Setiawan, E., Setiakarnawijaya, Y., & Septiadi, F. (2024). Blended-based massed and distributed training: A strategy for teaching volleyball skills in student-athletes. *Health, Sport, Rehabilitation*, 10(1), 98–110. <https://doi.org/10.58962/HSR.2024.10.1.98-110>
- Cheon, S. H., Reeve, J., & Ntoumanis, N. (2018). A needs-supportive intervention to help PE teachers enhance students' prosocial behavior and diminish antisocial behavior. *Psychology of Sport and Exercise*, 35, 74–88. <https://doi.org/10.1016/j.psychsport.2017.11.010>
- David J. Smith. (2003). *A Framework for Understanding the Training Process Leading to Elite Performance* | *Sports Medicine*. <https://link.springer.com/article/10.2165/00007256-200333150-00003>
- González-Silva, J., Fernández-Echeverría, C., Conejero, M., & Moreno, M. P. (2020). Characteristics of Serve, Reception and Set That Determine the Setting Efficacy in Men's Volleyball. *Frontiers in Psychology*, 11, 222. <https://doi.org/10.3389/fpsyg.2020.00222>
- Nurfani, N., Rahayu, S., & Priyono, B. (2022). The Relationship of Anxiety, Confidence, and Motivation to the Performance of Volleyball Referees: A Correlation Study. *JUARA : Jurnal Olahraga*, 7(2), 455–466. <https://doi.org/10.33222/juara.v7i2.2038>
- Permana, D. A., Kusnanik, N. W., Nurhasan, N., Setijono, H., Arifin, M. Z., & Purwoto, S. P. (2022). Enhancing Strength, Leg Muscle Explosive Power, and Muscle Hypertrophy Using Hurdle-Box Jump Plyometric. *Physical Education Theory and Methodology*, 22(1), 113–120.



- <https://doi.org/10.17309/tmfv.2022.1.16>
- Raya-Castellano, E. P., & Uriondo, L. F. (2015). A review of the multidisciplinary approach to develop elite players at professional football academies: Applying science to a professional context. *International Journal of Performance Analysis in Sport*, 15(1), 1–19. <https://doi.org/10.1080/24748668.2015.11868773>
- Samsudin, S., Setiawan, I., & Apriana Sanga Dwi, D. R. (2023). The playing-based learning model to improve basic volleyball skills of junior high school students. *Jurnal Cakrawala Pendidikan*, 42(1), 232–240. <https://doi.org/10.21831/cp.v42i1.52231>
- Sugiyono. (2012). *Metode Penelitian Kuantitatif, Kualitatif dan R&D*. CV. Alfabeta.
- Sutiyono, B., Apriyanto, T., & Ilham, M. (2021). *Aplikasi Penerapan Tes Dan Pengukuran Kondisi Fisik Untuk Atlet Desa/Kecamatan Pasawahan Kabupaten Kuningan Jawa Barat*.
- Tao, T., Zhang, N., Yu, D., & Sheykhlovand, M. (2024). Physiological and Performance Adaptations to Varying Rest Distributions During Short Sprint Interval Training Trials in Female Volleyball Players: A Comparative Analysis of Interindividual Variability. *International Journal of Sports Physiology and Performance*, 19(10), 1048–1057. <https://doi.org/10.1123/ijsp.2024-0104>
- Vealey, R. S. (2024). A framework for mental training in sport: Enhancing mental skills, wellbeing, and performance. *Journal of Applied Sport Psychology*, 36(2), 365–384. <https://doi.org/10.1080/10413200.2023.2274459>