

## Optimizing performance: a holistic review of the physical, mental, and technical aspects of honing kedeng smashes

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### Abstract

This research was motivated by the problem of low level of kedeng smash ability in BBTC sepaktakraw athletes in Padang City which has not met expectations. The purpose of this study was to investigate in depth the kedeng smash ability possessed by BBTC sepaktakraw athletes in Padang City. The research method used is a descriptive type, with a population of all BBTC Sepaktakraw Club athletes in Padang City who are actively training, consisting of 16 boys and 7 girls, a total of 23 people. Samples were taken using purposive sampling techniques, so it involved ten BBTC sepaktakraw athletes from Padang City who had the role of smashers. The research instrument used is a test of kedeng's smash ability. The collected data were analyzed using frequency distribution techniques with percentage calculations ( $P = F/N \times 100\%$ ). The results of the analysis showed that the smash ability of sepaktakraw Club BBTC athletes in Padang City was in the less category. These findings provide a clear picture of the level of technical skill of the athletes, particularly in the aspect of kedeng smashes. In an effort to improve athletes' abilities, this research provides a solid foundation for the development of more targeted and effective training programs. With a deep understanding of weaknesses in kedeng's smash ability, coaches and club managers can devise more specific training strategies to improve athletes' performance. The implications of this research not only enrich the literature in the world of sepaktakraw sports, but also contribute directly to improving the achievements of BBTC Kota Padang athletes in the competition arena.

**Keywords:** Physical, Mental, Smash Kedeng Abilities; Sepaktakraw

### INTRODUCTION

Every implementation of achievement sports will continue to be closely related to the four main component aspects, namely athletes, coaches, facilities and infrastructure, and management to support the achievement of the championship title, with which an athlete, coach and management must implement a prepared plan (Bais, 2022). Exercise is important for valuable human daily exercise to form a healthy body and soul (Barlian, 2019). According to (Finlay et al. 2022), exercise is an action that affects the health of a person's body to complete daily exercise. Practice is real work that can prevent degenerative diseases such as diabetes, osteoporosis and hypertension (Kanaley et al., 2022). An active job that is universally revered for their daily needs is sports (Marpaung dan Manihuruk, 2022). Assessment (Goodyear et al., 2023), which characterizes the practice as actual work performed routinely to improve cardiovascular health. As this definition indicates, "exercising" refers to "active work done consistently to improve cardiovascular health".

Exercise is a form of structured and planned physical activity that involves repetitive body movements whose goal is to improve physical fitness (Yenes, 2020). Exercise is a real job that further develops the well-being of the body; however, exercise can also improve performance (Lochbaum et al., 2022). Sports is one of the containers to promote and make the nation proud (Padli, 2021). Exercising is a physical activity that can encourage the development of physical, mental, and spiritual conditions that are needed in life (Haryanto, 2019).

Sports are a good means to improve physical and mental quality, especially for the younger generation (Arsita et al., 2021). Sports is a form of physical activity that is usually competitive (Mulya, 2020). Exercise is a physical activity to enrich and improve basic abilities, capacities, and skills (Jamudin et al., 2021). Exercise is an activity that is urgently needed by everyone to maintain their physical health and fitness (Veda, 2021). Exercise is a person's activity to train the body in a planned and structured manner that involves repetitive movements to keep the body fit (Prima & Kartiko, 2021). Sports is an activity that is always carried out by the community, its existence is no longer underestimated but has become part of people's lives (Hidayat et al., 2020). Exercise is a form of structured and planned physical activity that involves repetitive body movements that aim to increase physical freshness (Akbar et al., 2021).

The sepak takraw game is a game carried out by two teams facing each other on the field separated by a net that stretches across the field into two parts (Syam, 2022). Sepak takraw is a form of game played by two squads/squads of three players (Putra & Fuaddi, 2019). Sepak takraw is a game played on a rectangular field (Mamu et al., 2022). Sepak takraw is a type of traditional sport which is a mixture of football and volleyball.

Soccer is a sport played in teams on a rectangular field bounded by a net (Pratama et al., 2022). Sepak takraw is a competitive sport played by 3 players on a field with the shape and size of the field (Kahar et al., 2022). Sepaktakraw is a sport that has unique and dynamic movements that involve all limbs (Jufrianis, 2015). Sepak takraw is a sport that prioritizes ball handling skills as an effort to improve basic skills of physical formation, strength and agility and has a high level of difficulty in playing it and has a high risk of injury (Syahfutra & Remora, 2022). Sepaktakraw is a game that is played on a rectangular field, flat, open and closed, and free from all obstacles and the field is bounded by a net (Winandhi & Raharjo, 2022). The game of sepak takraw has several basic techniques including serving, kicking, smashing, and defending (Rosti et al., 2020).

The game of sepak takraw a player must master basic techniques and basic techniques, especially because in any sport without mastering basic techniques, it is certain that he cannot master the sport well. Likewise with sepak takraw, without mastering basic techniques, you will definitely not be able to play sepak takraw well. In sepak takraw there are various kinds of techniques that must be mastered, namely basic techniques and special techniques. The basic techniques are: kicking, memaha, heading, climbing, and hand in hand. While the special techniques (specific-skills) in the game of sepak takraw are: kicking (service), receiving the ball (reservice), passing (passing), smash and block. Basic engineering abilities cannot be separated from each other. Without mastering the basic skills or basic techniques of playing sepak takraw, the game of sepak takraw cannot be played optimally. Mastery of these techniques can be played well if trained and learned continuously under the supervision of a qualified coach. The game aims to kick a ball made of rattan fragments, back and forth through the net in the middle of the field like sepak takraw” (Han et al., 2018; Chen et al., 2018; Artyhadewa, M, 2017).

Smash is one of the techniques in the game of sepak takraw. Smash is the last attack that can produce points or points for a team, and smash is one of the attractions in the game of sepak takraw, because the technique in doing sepak takraw smash tends to be done in acrobatic ways. Mastery of the smash technique can be practiced in various ways or certain methods. Serious training that is carried out actively and in accordance with the program can improve sports performance. The training that is really carried out with enthusiasm in question is training that is carried out regularly in accordance with the specified program. While exercises that are in accordance with the program are exercises that provide clear goals, the material is in accordance with the characteristics of the sport being fostered and the available time is arranged precisely and clearly and also has alternative strategies that are in accordance with the form of activities and materials provided.

The smash technique is the most difficult technique and has complex movements so the smash technique must be trained in athletes from an early age because early age is a stage that is prone to movement errors. Guidance from the coach must be done properly to optimize the athlete's technique. Athletes who have long been accustomed to making the wrong smash movements will be difficult to correct so that it can hinder the achievement of maximum achievement. Doing the technique correctly is an important process in the implementation of the smash because biomechanically the movement is more efficient, effective and safe so that it is easier to do the smash.

In the sepaktakraw game, we know two types of smash, namely roll smash and kedeng smash. There is a clear difference between the two smashes, a roll smash is a smash that is done like an upside down movement (both feet do not touch the ground), roll smash is often done by professional players because the risk of injury is great. If the smash movement is kedeng, one foot touches the ground, so only one foot does not touch the ground. Smash kedeng is a smash hit that is done by sticking your legs up to chase the ball, not done by somersaulting in the air or rotating the body. Smash kedeng is done by hitting the ball using the right or left foot. The form of kedeng smash training can be done in various ways, including using a hanging ball, being passed using the feet by a friend, tossed by yourself, and the kedeng smash practice by being tossed by a friend or coach in an adventurous and alternate way. Smash kedeng is usually kicked using the back of the foot, which aims to make the ball from the smash go strong and sharp and die in the opponent's game area.

Through observation of how coaches assess the ability to smash kedeng to their athletes, it is still found that the assessment of the smash kedeng technique is different from each coach. Coaches, in addition to having good skills in techniques and strategies, must also be able to evaluate the athletes' performance. The assessment of the skills of the smash kedeng technique through the evaluation of the coach is expected to be able to help athletes in improving their ability to perform the smash kedeng technique.

The results of the researcher's observation of the athletes of the Padang City BBTC club, training is carried out every day at the BBTC sepaktakraw field, which the training implementation starts at 16:00 WIB. Every training meeting, the training material for the smash technique has more portions than other technical exercises. Physical training given to athletes is also more aimed at improving the quality of smash techniques, especially increasing the strength of leg muscles, abdominal muscles and arms. The willingness of athletes to practice smash techniques is very high because according to athletes, smash techniques are the beginning of their interest in the sport of sepaktakraw, and athletes think that a good smash is a smash that is done hard and sharply.

## METHOD

This research is a type of descriptive research. The population in this study is all athletes of the Sepaktakraw Club BBTC Padang City who actively participate in training, namely 16 men and 7 women totaling 23 people. The sample constitutes half of the population studied, the sample is briefly defined as the part of the population that is the actual source of the data (Yenes, 2021). Sampling was taken using a proportional sampling technique, so the sample taken in this study was the entire Padang City BBTC sepaktakraw athletes who were in a smasher position, which was 10 people. This research instrument was through a test of the ability to smash kedeng. The analysis of the research data used a frequency distribution technique with the calculation of the percentage  $P = F/N \times 100\%$ .

## RESULTS AND DISCUSSION

### Results

Based on the results of the Kedeng smash ability test, the maximum score was 20 and the minimum score was 10. In addition, the mean value (average) = 14 and standard deviation = 3.23 were obtained. For a more detailed description of the smash data of kedeng, please see table 1 below:

Table 1. Smash Kedeng Frequency Distribution

Interval Class	Fa	Fr	category
>25	0	0	Very good
20-24	1	10,00	Good
15-19	4	40,00	Enough
10-14	5	50,00	Less
<9	0	0	Less
Total	10	100	

Based on the table above out of 10 sample people, 1 person (10.00%) had a kedeng smash ranging from 20-24 with a good category, 4 people (40.00%) had a kedeng smash ranging from 15-19 with a fair category, and 5 people (50.00%) had a kedeng smash ranging from 10-14 with a poor category.

## Discussion

The results of the study showed that from 10 samples, the average score of the smash ability of the athletes of the Sepaktakraw Club BBTC Padang City 14 was obtained with a standard deviation of 3.23, a minimum score of 10 and a maximum of 20. From the results of the study, 1 person (10.00%) had a smash with a good category, 4 people (40.00%) had a smash with a moderate category, and 5 people (50.00%) had a smash with a poor category. It can be concluded that the average smash ability of the athletes of the Sepaktakraw Club BBTC Padang City is in the category of less.

A total of 1 athlete who is categorized as good still needs to be corrected, including the athlete's poor technique in straightening the legs and rotating the body inward, then in doing a smash with the instep or the instep of the outside, assisted by the rotation of the hips still looks imperfect. For the enough category, there are 4 athletes who also have several shortcomings such as poor body position when going to smash in the position with their backs to the net and the view adjusts the direction of the ball and when repelling the pedestal of one of the legs is less explosive in doing a kedeng smash. The lack of 5 athletes and this category needs special attention because of the 4 assessment items from the researcher is still far from good.

Smash kedeng is one of the special smash techniques that is carried out using the feet by the front player, because by using a good and deadly smash technique, it will be able to kill the opponent's defense and get points that determine victory in a match. According to Eka Prasetiawati (2015), a kedeng smash punch is a smash hit that is carried out by the player using the way of lifting the legs up to grab the ball without turning the body when it is above. Smash .kedeng can be used with the strongest legs.

According to some of the arguments above, the smash punch is a smash technique by the forward player.using the leg by sticking the foot up to grab the ball by not spinning the body in the air, the smash is done with the aim of killing the enemy's defense and getting points to win a match. This is because the kedeng smash movement is a movement that is carried out with a combination of body rotation and foot kicks. If you do the kedeng smash correctly, it will produce a good smash.

To produce a good smash kedeng, athletes must have flexibility, endurance, balance and good speed so that when doing a smash movement the movement is not limited and difficult to be returned by the opponent because the ball produced is sharp and hard, supported by a high jump, body flexibility, speed and good endurance. In order for every athlete or sample to be able to smash kedeng well, every athlete must understand and understand and be able to utilize the elements in each phase (Pratama, S, 2022), by looking at this research, it is hoped that there will be an improvement in the ability to smash kedeng athletes of the Sepaktakraw Club BBTC Padang City in order to produce good smash movements.

According to Putri, (2020) explosive power is the ability of muscles to use maximum power that is deployed in a short time, the important thing with this phase is that if the athlete has good explosiveness or power, the resulting smash will be hard and difficult to receive by the opponent. In addition to explosiveness, accuracy is also an important factor in obtaining points because according to (Arwin et al., 2017) accuracy is a person's ability to direct a movement to a suggestion that is in accordance with the goal.

The importance of accuracy in the smashing phase is to be able to control the free movement of a target and direct the ball to a place that cannot be reached by the player, accuracy is a factor needed by a player to achieve the desired target. The mistake in doing a smash is that the player lands with his left foot too late if he smashes with his right foot, so that he falls to the seat. (Ericksen et al., 2016) explained that landing with decreased knee and hip flexion can increase the risk of lower extremity injury.

Based on this, according to the researcher's analysis, players are required to follow routine, regular training and follow programmed exercises given by the coach so that players can improve their

smash skills even better. It is recommended to improve the smash skills of athletes of the Sepaktakraw Club BBTC Padang City in order to do intensive training to be able to improve the ability to smash kedeng, such as training, 1) model of the stages of training for the movement of the smash without the ball, 2) model of the stages of training for the smash of the ball hanging, 3) model of the stages of the training stages of the smash kedeng with the ball tossed by itself, 4) model of the stages of smash training with the ball tossed by a friend, 5) Kedeng smash stage training model with the ball passed by a friend's foot.

This study aims to analyze critical information of sepak takraw using bibliometric strategies and scoping reviews. It is very important to synthesize the available literature on this research topic. In particular, previous research that used this method to synthesize publication outputs related to sepak takraw was still limited. Nevertheless, investigations of other sports using bibliometric indicators, such as handball (Gómez et al., 2015), football (Macedo et al., 2022), and badminton (Blanca-Torres et al., 2020), have been carried out.

Moen et al. (2014) noted that the main role of coaches is to help their athletes to improve their performance. In many situations, once an athlete begins his or her journey to participate in competitive sports, they will spend most of their time with their coaches. A coach not only has the responsibility of taking on the traditional role of a team or group of athletes, teaching technical skills, and in many cases winning; They have the burden of motivating athletes, supporting them, and enabling them to fulfill their full potential (Hyun-Duck & Cruz, 2016).

## CONCLUSION

The ability of the Sepak Takraw Club BBTC Kota Padang athletes in the smash technique is on average categorized as lacking. In detail, as many as 1 athlete who is categorized as good still needs to be corrected, including the athlete's technique in straightening the legs and rotating the body inward, then in doing a smash with the instep or the back of the outer foot, assisted by the rotation of the hips still looks imperfect. For the enough category, there are 4 athletes who also have several shortcomings such as poor body position when going to smash in the position with their backs to the net and the view adjusts the direction of the ball and when repelling the pedestal of one of the legs is less explosive in doing a kedeng smash. The lack of 5 athletes and this category needs special attention because of the 4 assessment items from the researcher is still far from good.

The results of the research can be used as input and evaluation for coaches, in preparing and compiling the next training program for players. For players, it is hoped that they will further improve their physical condition and sepak takraw technique by practicing regularly. For players, it is necessary to practice outside the training schedule and maintain discipline in terms of training and food intake to further support their physical condition for those who lack.

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