



ORIGINAL SCIENTIFIC ARTICLE

IMPROVING GUNTINGAN SKILLS BY USING SIMPLE TRAINING TOOLS

Widiastuti^{1BC}, Hendro Wardoyo^{1AE}, Budi Ariyanto Muslim^{2BD},
Muhammad Syamsul Taufik^{3AC}, Soleh Solahuddin^{4CDE} and Gumilar Mulya^{5BD}

¹Universitas Negeri Jakarta

²Ministry of Youth and Sports of the Republic of Indonesia

³Universitas Suryakencana

⁴Universitas Sriwijaya

⁵Universitas Siliwangi

Authors' Contribution: A – Study design; B – Data collection; C – Statistical analysis; D – Manuscript Preparation; E – Funds Collection

Corresponding Author: Muhammad Syamsul Taufik, E-mail: syamsul@unsur.ac.id

Accepted for Publication: August 15, 2022

Published: November 30, 2022

DOI: 10.17309/tmf.v.2022.3s.01

Abstract

Study purpose. The purpose of this study was to determine the effect of training using simple training tools, namely rubber band, ropes and foam sticks, on the Guntingan skills of Pencak Silat athletes.

Materials and methods. This study used an experimental method with a pretest-posttest control group design. In this design there were two sample groups, namely the experimental simple training tools group and the simple guntingan skills training group. 60 athletes from Betako Merpati Putih PPS Pencak Silat School at MA Al-Khairiyah Jakarta participated in this study, divided into two groups where the experimental group included 30 students and the control group included 30 students. This study used a waist guntingan test instrument which consists of 26 aspects of assessment that were validated by 3 experts in Pencak Silat.

Results. There are significant differences in the participants' test results before and after they were given training using simple tools and traditional training to improve guntingan skills, but there is a difference in the effect of each of the guntingan skill trainings in the two groups. The training using simple training tools has better effect on the guntingan skills than the traditional training method.

Conclusions. Unconventional training tools are effective to be used in Pencak Silat guntingan skills training. The improvement of athletes in performing guntingan skills shows that simple training tools can be used for Pencak Silat training. Further study could observe the effect of the tools used in this study on other Pencak Silat skills, or skills in other martial arts and sports.

Keywords: guntingan, pencak silat, training tools.

Introduction

Student Pencak Silat championships which are held in various events and schools can increase the number of participating athletes, so that excellent and potential athletes will emerge. The existence of Pencak Silat in schools helps the development of potential or talented Pencak Silat athletes in Indonesia. Pencak Silat, as one of the indigenous martial art of Indonesia (Kasmandana et al., 2019), has been introduced in high school, where students are taught various basic techniques of Pencak Silat (Sin & Ihsan, 2020). Basic technique is a

system or way of doing a fundamental movement. Basic techniques have a very big role in forming other special techniques because basic techniques are the initial foundation. Forming reliable and skillful athletes requires good basic techniques, which must be done correctly, so that there are no continuous errors in developing advance techniques (Widiastuti et al., 2019). There are various Pencak Silat techniques that must be mastered by athletes. The techniques consist of three basic techniques, namely attack, defense and bottom techniques. Of the three basic techniques, the bottom technique is the basic technique of Pencak Silat which is considered very important for athletes to master. According to (Listiana & Isdaryono, 2019), the bottom technique of pencak silat is considered quite effective and efficient to be executed because in the process of implementing the motion, the bottom technique is

© Widiastuti, Wardoyo, H., Muslim, B.A., Taufik, M.S., Solahuddin, S., & Mulya, G., 2022.



the basic technique of pencak silat which is carried out by interfering the balance position of the opponent. Guntungan is one of Pencak Silat techniques which drops an opponent by clamping the legs on target's neck, waist, or legs so that the opponent falls (Setyo Kriswanto, 2015). This cutting technique name refers to the final shape, which when viewed from the front, where 2 crossed cutting legs resemble the shape of a pair of scissors, in an oblique position resting on both hands (Babang et al., 2020; Ihsan, 2018). In a competition, the type of guntungan technique that usually used is the flying guntungan with the opponent's waist as the target.

There are 4 stages in the motion of the waist clipping, which are:



Fig. 1. Guntungan Stage (Lubis & Wardoyo, 2016):
(1) Initial position, (2) preparatory position,
(3) execution position, (4) final position

(1) Initial position : The basic stance is the initial stance taken by an athlete that prepares to attack or defense. The basic stance is divided into two, namely open and close stance. The open stance is a basic stance with the position of the hands and arms not covering the body, while the close stance is a basic stance with the position of the hands and arms protecting the body. Open stance is the initial position which usually used in applying guntungan technique. (2) Preparatory position in this position, hands are used as the support for body weight. This is performed in order to make athletes comfortable in executing guntungan techniques. Both hands are placed in front of the feet to have an explosive start when executing jumping motion of guntungan technique. (3) Execution position : In this position, athlete clamps down on the opponent's waist. Athlete's knees and legs clamp towards the opponent's waist so that the guntungan that is made really sticks to the target. When performing the guntungan technique, the fighter pins the opponent in the direction of the waist or groin so that the focused energy will be greater and more impactful. (4) Final guntungan position is a follow through from the execution position, whether the guntungan is successful or not. This position is also useful for shifting the center of gravity of the opponent, so that the opponent's balance is messed and the opponent falls more easily.

Effective training requires good planning, and the media that will be used in the training also requires good planning. Using the right training tools or other media can support improving athletes' skills and performance (Swandana et al., 2021; Wijayanti et al., 2021). Therefore, the selection of training tools must be in accordance with athlete needs so that it can achieve the expected goals. *This study aims* to determine the improvement of Pencak Silat guntungan skills using simple training tools, namely rubber band, ropes and foam sticks. These training tools are cheap or even free, waste and recyclable, tools.

Materials and Methods

Study participants

60 athletes from Betako Merpati Putih PPS Pencak Silat School at MA Al-Khairiyah Jakarta were participated in this

study, divided in to 30 students on experimental group and 30 on control group.

Study organization

The method used in this study was an experimental method with a pretest-posttest control group design. In this design there were two sample groups, namely the experimental simple training tools group and the simple guntungan skills training group.

The research was carried out for 2 months, a total of 18 training sessions, with training frequency of 3 times a week. The experiment group used simple tools (rubber tire wastes, ropes, and foam sticks) as the training aid, while the control group used traditional guntungan skills training methods.

Rubber tire wastes were used as performance enhancement tools, similar to training rubber bands, which came from used rubber tires. The rubber tires were cut and then modified so that can later be used for training aids. Other training tools used in this study are ropes (Samsudin et al., 2021). The ropes in this study were useful for basic stance trainings, so that the basic stance produced can be maximized and achieve the perfect shape. One of the tools that usually used in martial art trainings is sandbag. Sandbag is one of the training equipments which used as a target for martial arts athletes to train their kick and punch (Taufik et al., 2021). Instead of sandbag, foam sticks were used as the training target in this study, because foam sticks are elastic, easy to obtain, and affordable.

Before and after the trainings, athletes perform right and left waist guntungan skills as the pre-test and post test. This study used a waist guntungan test instrument which consists of 26 aspects of assessment that have been validated by 3 Pencak Silat experts.

Statistical analysis

The statistical analysis technique used the Statistic Package for Social Science (SPSS) version 21 software. The used the Shapiro-Wilk test, the Paired Sample T-Test with significant level ($p \leq 0.05$). All data displayed Mean $\pm$ Standard Deviation (SD)

Results

The description of the data is a general description of each variable as a support in the following discussion. Through this general description, the initial conditions and after the treatment of the variables studied will emerge. The data of the waist guntungan skills were obtained from the results of the waist guntungan test instrument which consists of 26 aspects of assessment.

The data was collected from the results of the pre-test and post-test with 2 different groups (experimental group and control group) before and after the training process using simple training tools and traditional training methods. The summary of the data description of the improvement of waist cutting skills can be seen in Table 1.

The next step is to test the similarity of the two averages (one side). This was done to determine the effect of the training using simple training tools and traditional training on the guntungan skills. The results of the significance test can be seen in Tables 2 and 3.

Table 1. General description of waist guntingan skills pre-test and post-test

Descriptive Statistics Paired Samples Statistics					
		Mean	N	SD	SE Mean
Pair 1	Pre_test_1	4083.20	30	395.216	72.156
	Post_test_1	6123.53	30	1064.712	194.389
Pair 2	Pre_test_2	3927.33	30	468.864	85.603
	Post_test_2	4148.40	30	366.751	66.959

Table 2. Paired Sample T Test of Training using Simple Training Tools and Traditional Training On Guntingan Skills Improvement

Paired samples correlations				
		N	Correlation	Sig.
Group 1	Media Tools	30	0.997	0.000
Group 2	Simple Media	30	0.214	0.000

From the results of the paired sample t test calculation, it was obtained that the value of $0.00 < 0.05$ of experiment group and $0.00 < 0.05$ of the control group, which means that there are significant differences before and after being given training using simple tools and traditional training to improve guntingan skills.

From the calculation results in Table 3, it was obtained from the experiment group was -10.167 while the control group was -2.285. This shows that the T_count value of the experiment group is greater than T_Sig or is outside the Ho acceptance value, and this means that there is a difference in the effect of each guntingan skill trainings from the two groups. It can be concluded that there is a difference in the effect of training using simple training tools and traditional training on the Pencak Silat guntingan skills. Furthermore, it can be said that the training using simple training tools has better effect on the guntingan skills than the traditional training method.

Discussions

Training tools have been widely used to as performance enhancement, assessment tools, and injury prevention (Hecimovich et al., 2018; Langholz et al., 2016; Rapp & Tirabeni, 2020). Trainers need training tools that can make it easier to give examples of movement (Syamsiyah et al., 2020). However, unconventional training method and equipments can be an effective way to train combat sports athletes (Santana & Fukuda, 2011). This study used simple training tools which are affordable and easy to obtain, and can be said as

unconventional training tools, because the tools used in this study are slightly different from the tools that usually used in Pencak Silat trainings.

Some training tools has been used for Pencak Silat in previous studies such as (Amrullah, 2016) who used Training Resistance Xander to improve the athletes' crescent kick performance, and (Sinulingga et al., 2018) who developed a training tool to improve punching speed of Pencak Silat athletes. While these tools are effective to improve the performances of Pencak Silat athletes, the tools are expensive or hard to obtain. In addition, several previous studies used simpler training models and tools to improve the ability of pencak silat athletes. (Lestiyono & Purwono, 2020) used agility ladder and cone to improve the kick ability of Pencak Silat athletes, while (Babang et al., 2020) and (Efendi, 2022) specifically improved guntingan skills using imagery training and audio visual media respectively.

Equipments that are simple, easy to obtain, and can be used in training process, are suitable to be implemented in Pencak Silat schools (Sudarmanto et al., 2018). The tools used in this study are not only able to improve guntingan skill performances, but also easy to obtain because they are general goods that can be found in daily life which also affordable. In addition, the use of waste in cardiorespiratory training has been proven to be effective in improving cardiorespiratory performance (Widiastuti et al., 2019). The rubber bands used in this study were made from rubber tire wastes, which are free, and can indirectly help the utilization of wastes into useful goods.

This study shows significant differences before and after being given training using simple tools and traditional training to improve guntingan skills. There were also differences obtained between the experiment group and the control group, which shows that there is a difference in the effect of each guntingan skill trainings from the two groups. It can be concluded that the training using simple training tools has better effect on the guntingan skills than the traditional training method.

This study is limited to the implementation of simple training tools to improve the guntingan skills of Pencak Silat athletes. Further study could observe the effect of the tools implemented in this study on other Pencak Silat skills, or other martial arts and sport skills.

Conclusion

Unconventional training tools are effective to be used in Pencak Silat guntingan skills training. The improvement of athletes in performing guntingan skills shows that simple training tools can be used for Pencak Silat training. Furthermore, it can be said that the training using simple training

Table 3. t-Test: Paired Two Sample for Means Group

Paired Differences									
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Pre_test_1 - Post_test_1	-2040.333	1099.210	200.687	-2450.785	-1629.882	-10.167	29	.000
Pair 2	Pre_test_2 - Post_test_2	-221.067	529.809	96.730	-418.901	-23.233	-2.285	29	.030

tools has better effect on the guntingan skills than the traditional training method. However, further study could observe the effect of the tools implemented in this study on other Pencak Silat skills, or other martial arts and sports.

Acknowledgement

We want to express our gratitude to all authors and university institutions who have always supported all of these research activities. We want to thank the Chancellor and Dean of the Universitas Negeri Jakarta and the students that supported the implementation of this research. We also would like to express our gratitude to the Universitas Negeri Jakarta Martial Art coach and all parties that we cannot mention in this research.

Conflict of interest

No potential conflict of interest was reported by the authors.

References

- Kasmandana, M., Soegiyanto, S., & Rahayu, S. (2019). Effect of Weight Training and Leg Length on the Sickle Kick Speed in Male Students Extracurricular Pencak Silat at Senior High School Bina Jaya Palembang. *Journal of Physical Education and Sports*, 8(3), 294-298.
- Sin, T. H., & Ihsan, N. (2020). The effectiveness of Pencak Silat to change teenage personalities. *Jurnal Konseling Dan Pendidikan*, 8(1), 1-8. <https://doi.org/10.29210/139800>
- Widiastuti, W., Susilawati, D., Pradityana, K., & Solahuddin, S. (2019). Cardiorespiratory training models based on waste utilization for elementary school students. *Journal of Physics: Conference Series*, 1318(1). <https://doi.org/10.1088/1742-6596/1318/1/012036>
- Listiana, S., & Isdaryono, I. (2019). Development of a Model of Pencak Silat Lower Technique Skills Training for Athletes in the Youth Competition Category. *Altius: Jurnal Ilmu Olahraga Dan Kesehatan*, 8(2). <https://doi.org/10.36706/ALTIUS.V8I2.9510>
- Setyo Kriswanto, E. (2015). *Pencak Silat* (E. S. Kriswanto (ed.); 1st ed.). PUSTAKA BARU PRESS.
- Babang, V. M. M. F., Margiani, K., & Abdullah, Z. (2020). The Influence of Application of Mental Imagery Method on Cutting Techniques in Self Shield Athletes at Mts Negeri Kupang. *Motion: Jurnal Riset Physical Education*, 10(1), 67-76. <https://doi.org/10.33558/MOTION.V10I1.1965>
- Ihsan, N. (2018). *Pembelajaran Pencak Silat* (Vol. 1). Rajagrafindo Persada.
- Lubis, J., & Wardoyo, H. (2016). *Pencak Silat* (3rd ed., Vol. 1). Rajagrafindo Persada.
- Swandana, A., Sugiharto, S., & Wahyu, I. S. C. (2021). Development of Reaction Speed and Endurance Training Tools for Taekwondo Kick Speeds Using Pyongyo. *Journal of Physical Education and Sports*, 10(1), 8-16.
- Wijayanti, N. P. N., Saputro, D. P., AF, O. F., & Febri, R. (2021). Ladder drill portable: Agility tools for sports. *Journal Sport Area*, 6(1), 98-108. [https://doi.org/10.25299/SPORTAREA.2021.VOL6\(2\).5912](https://doi.org/10.25299/SPORTAREA.2021.VOL6(2).5912)
- Samsudin, S., Setiawan, I., Taufik, M. S., & Solahuddin, S. (2021). Volleyball Fundamental Movement Learning Model in Primary School. *Physical Education Theory and Methodology*, 21(3), 194-199. <https://doi.org/10.17309/tmfv.2021.3.02>
- Taufik, M. S., Widiastuti, Setiakarnawijaya, Y., & Dlis, F. (2021). Effect of circuit and interval training on vo2max in futsal players. *Journal of Physical Education and Sport*, 21(4), 2283-2288. <https://doi.org/10.7752/jpes.2021.s4305>
- Hecimovich, M., King, D., Dempsey, A. R., & Murphy, M. (2018). The King-Devick test is a valid and reliable tool for assessing sport-related concussion in Australian football: A prospective cohort study. *Journal of Science and Medicine in Sport*, 21(10), 1004-1007. <https://doi.org/10.1016/J.JSAMS.2018.03.011>
- Langholz, J. B., Westman, G., & Karlsteen, M. (2016). Musculoskeletal Modelling in Sports - Evaluation of Different Software Tools with Focus on Swimming. *Procedia Engineering*, 147, 281-287. <https://doi.org/10.1016/J.PROENG.2016.06.278>
- Rapp, A., & Tirabeni, L. (2020). Self-tracking while doing sport: Comfort, motivation, attention and lifestyle of athletes using personal informatics tools. *International Journal of Human-Computer Studies*, 140, 102434. <https://doi.org/10.1016/J.IJHCS.2020.102434>
- Syamsiyah, S., Purnomo, E., & Gustian, U. (2020). Development of Pencak Silat Catching Training Tools. *Jurnal Ilmu Keolahragaan*, 3(2), 140-148. <https://doi.org/10.26418/JILO.V3I2.42961>
- Santana, J. C., & Fukuda, D. H. (2011). Unconventional methods, techniques, and equipment for strength and conditioning in combat sports. *Strength and Conditioning Journal*, 33(6), 64-70. <https://doi.org/10.1519/SSC.0B013E318230FF5D>
- Amrullah, R. (2016). The Effect of Xander's Resistance Training on Pencak Silat's Sickle Kick Ability. *Jurnal Pendidikan Olah Raga*, 4(1), 88-100. <https://doi.org/10.31571/JPO.V4I1.33>
- Sinulingga, A., Novita, N., & Sahputera, S. R. (2018). Development of Tools Speed of Blow Reaction Android-Based in Pencak Silat. *International Journal of Science and Research*, 8. <https://doi.org/10.21275/ART20203275>
- Lestiyono, D., & Purwono, E. P. (2020). The Effect of Agility Ladder and Cone Drills Exercises on Pencak Silat Sickle Kick Skills in Male Athletes of Persinas Asad Semarang. *Tadulako Journal Sport Sciences and Physical Education*, 8(2), 74-83.
- Efendi, M. Y. (2022). The Effect of Cutting Down Technique Exercise Using Audio Visual (Video) Media on Pencak Silat Extracurricular Students at Mtsn 1 Kediri City. *Jurnal Pendidikan Olahraga Dan Kesehatan*, 10(2).
- Sudarmanto, E., Supriyadi, A. P., & Hakiki, I. (2018). Differences in the Effect of Plyometric Depth Jump and Hurdle Hopping Exercises on Increasing Leg Muscle Power in Young Women Pesilats at the Tapak Suci Putera Muhammadiyah College Simo Boyolali in 2018. *Journal of Sport Science and Education*, 3(2), 60-68. <https://doi.org/10.26740/JOSSAE.V3N2.P60-68>

УДОСКОНАЛЕННЯ НАВИЧОК ВИКОНАННЯ ТЕХНІКИ КИДКА «НОЖИЦІ» З ВИКОРИСТАННЯМ ПРОСТИХ ТРЕНУВАЛЬНИХ ЗАСОБІВ

Відіастуті^{1BC}, Хендро Вардойо^{1AE}, Буді Аріянто Муслім^{2BD},
Мухаммед Сямсул Тауфік^{3AC}, Солах Солухуддін^{4CDE}, Гуміляр Муля^{5BD}

¹Джакартський державний університет

²Міністерство молоді та спорту Індонезії

³Університет Сур'яканчана

⁴Університет Шривіджая

⁵Університет Сілівангі

Авторський вклад: А – дизайн дослідження; В – збір даних; С – статаналіз; D – підготовка рукопису; Е – збір коштів

Реферат. Стаття: 5 с., 3 табл., 1 рис., 22 джерела.

Метою цього дослідження було визначення впливу тренувань із використанням простих тренувальних засобів, а саме: гумової стрічки, канатів і пінопластових палиць, на навички виконання техніки кидка «ножиці» у спортсменів, які займаються бойовим мистецтвом пенчак-силат.

Матеріали та методи. У цьому дослідженні використовували експериментальний метод із планом попереднього та підсумкового тестування з використанням контрольної групи. Цей план передбачав вибірку з двох груп: експериментальної групи, у якій використовували прості тренувальні засоби, і групи, у якій проводили прості тренування з навичок виконання техніки кидка «ножиці». Учасниками цього дослідження стали 60 спортсменів зі школи бойових мистецтв пенчак-силат «Мерпаті путі» («Білий голуб»), розташованої в мусульманському релігійному навчальному закладі «Аль-Хайрія», Джакарта (Індонезія), яких розділили на дві групи: експериментальну (30 учнів) і контрольну (30 учнів). Як засіб тестування для оцінки показників у дослідженні використовували виконання техніки кидка «ножиці» із захопленням обома ногами талії суперника, що складається з 26 аспектів оцінки, правильність яких підтвердили 3 експерти з пенчак-силату.

Результати. Існують статистично значущі відмінності в результатах тестування учасників до та після проходження ними тренування з використанням простих засобів і звичайного тренування з метою вдосконалення навичок виконання техніки кидка «ножиці», але вплив кожного типу тренувань з метою вдосконалення навичок виконання техніки кидка «ножиці» у цих двох групах є відмінним. Тренування з використанням простих тренувальних засобів краще впливає на навички виконання техніки кидка «ножиці», ніж тренування звичайним методом.

Висновки. Нестандартні тренувальні засоби є ефективними для застосування під час тренування з метою вдосконалення навичок виконання техніки кидка «ножиці» у пенчак-силаті. Покращення показників спортсменів у виконанні навичок техніки кидка «ножиці» свідчить про те, що прості тренувальні засоби можна використовувати для тренувань із пенчак-силату. У подальших дослідженнях можливо спостерігати вплив засобів, які використовували в цьому дослідженні, на інші навички пенчак-силату або навички інших бойових мистецтв і видів спорту.

Ключові слова: техніка кидка «ножиці», пенчак-силат, тренувальні засоби.

Information about the authors:

Widiastuti Widiastuti: widiastuti@unj.ac.id; <https://orcid.org/0000-0003-4047-1969>; Department Sport Education, Universitas Negeri Jakarta, Jakarta Timur, 13220, Indonesia.

Hendro Wardoyo: hwardoyo@unj.ac.id; <https://orcid.org/0000-0002-6728-2343>; Department Sport Coaching, Universitas Negeri Jakarta, Jakarta Timur, 13220, Indonesia.

Budi Ariyanto Muslim: budiariyantomuslim@gmail.com; <https://orcid.org/0000-0002-2205-6174>; Assistant Deputy for Achievement Sports, Ministry of Youth and Sports of the Republic of Indonesia, Jl. Gerbang Pemuda No.3 Senayan Kel. Gelora, Kec. Tanah Abang, Jakarta Pusat 10270, Indonesia.

Muhamad Syamsul Taufik: syamsul@unsur.ac.id; <https://orcid.org/0000-0001-5936-515X>; Department Physical Education, Universitas Suryakencana, Jl. HS.Ronggo Waluyo, Puseurjaya, Kec. Telukjambe Tim., Kabupaten Karawang, Jawa Barat 41361, Indonesia.

Soleh Solahuddin: solehsolahuddin@fkip.unsri.ac.id; <https://orcid.org/0000-0001-8959-3073>; Department Physical Education, Universitas Sriwijaya, Jl. Masjid Al Gazali, Bukit Lama, Kec. Ilir Bar. I, Kota Palembang, Sumatera Selatan 30128, Indonesia.

Gumilar Mulya: gumilarmulya@unsil.ac.id; <https://orcid.org/0000-0002-8953-1873>; Department Physical Education, Universitas Siliwangi, l. Siliwangi No.24, Kahuripan, Kec. Tawang, Kab. Tasikmalaya, Jawa Barat 46115, Indonesia.

Cite this article as: Widiastuti, Wardoyo, H., Muslim, B.A., Taufik, M.S., Solahuddin, S., & Mulya, G. (2022). Improving Guntingan Skills by Using Simple Training Tools. *Physical Education Theory and Methodology*, 22(3s), S7-S11. <https://doi.org/10.17309/tmfv.2022.3s.01>

Received: 03.12.2021. Accepted: 15.08.2022. Published: 30.11.2022

This work is licensed under a Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0>).