https://journal.unnes.ac.id/sju/index.php/smcj/index
SMCJ 2 (2) (2023) DOI: https://doi:10.15294/smcj.v2i2.78676
e-ISSN: 2962-6382 p-ISSN: 2962-6374

The Effect of Jump Rope Training Program on the Agility in Deaf Children SLB-B Yayasan Pendidikan Tunas Bangsa (YPTB) Malang City

Original Article

David Rinekso Pribadi[1], Slamet Raharjo[1]*, Olivia Andiana[1]

[1]Departement of Sport Science, Faculty Sport Science, State University of Malang

Correspondence:
Slamet Raharjo, Jl. Semarang No.5, Malang
Phone: 08121614814
Email: slamet.raharjo.fik@um.ac.id

Submitted : 08-Jan-2024
Revised : 01-Mar-2024
Accepted : 23-Mar-2024

Abstract
Deaf children are those who have lost or suffered from hearing impairment since birth or before the age when their language development is fully formed. One aspect of physical fitness is agility. Through appropriate agility exercises, deaf children can enhance their ability to feel more confident in engaging in physical activities. Jump rope exercises involve coordinated body movements that can help deaf children develop agility, muscle strength, and motor coordination. A pre-experimental approach is used in this quantitative research, and the research design employed is a one-group pretest-posttest. The sample studied consisted of 30 deaf children in grades 3-6 in elementary school. The research indicates that jump rope exercises have a positive impact, leading to an increase in agility in deaf students at SLB-B Yayasan Pendidikan Tunas Bangsa, Malang City. The paired sample t-test results show a significant value of 0.001. The conclusion is that jump rope training has an impact on the agility of deaf students at SLB-B YPTB Malang City, as evidenced by the increase in scores in the post-test.

Keywords: *jump rope training, agility, deaf children*

INTRODUCTION

According to the World Health Organization (WHO) 5% of the world's population or around 360 million people suffer from hearing loss, child deaf have abnormality on function hearing or what is usually called deaf. Although it is thought that no human being is truly deaf, deaf children have hearing loss that makes them unable to hear sounds clearly or at all (9). Deaf children can experience difficulties in motor coordination and agility movement, p This caused by a lack of sound stimulation that can disrupt the mechanism movement on child deaf (15). A combination of abilities, including speed, strength, endurance, agility, flexibility, coordination, and balance, is necessary for the development of gross motor skills. (6).

For every child without exception, the development of gross motor skills is very important. A child's ability to use his gross motor skills will help him as he grows up. Agility is one of the qualities that helps children develop gross motor skills. According to (10) the ability to change body position or direction quickly and accurately in response to external circumstances without losing balance is known as agility. Agility is the body's capacity to quickly change direction in response to a loss of balance. Agility is very important in physical education because it is considered a combination of various basic movements (8). Apart from that, the level of basic motor

skill ability is very dependent on agility ability. (2). It will be easier for children to carry out various motor tasks, especially gross motor activities, if their agility is optimally stimulated.

One training technique that can be used to improve agility is jumping rope. Jumping rope is a sport that is done individually or in groups by jumping or via a rope that swings from head to toe repeatedly. According to (Turgut et al., 2016) agility and aerobic strength can be increased by jumping rope training. According to (13) Skipping trains every muscle in the body, this contributes to increased agility. Jumping rope helps improve leg agility by activating the muscles in the ankles, knees, hips, core, torso, back, shoulders and arms.

Based on the description of the problem above, the researcher wants to develop body agility techniques by providing a training program that has been designed. In this case, researchers conducted research on the effect of a jump rope training program on increasing the agility of deaf children at SLB YPTB (Yayasan Pendidikan Tunas Bangsa) Malang City" which in the future is expected to be able to add new methods related to the development of balance training for deaf children.

MATERIAL AND METHODS

In this research, it is used Quantitative method that applies a pre-experimental approach by choosing a One-Group Pretest-Posttest research design. The research was carried out at SLB- B Yayasan Pendidikan Tunas Bangsa, Malang City. The research will take place over a period of 6 weeks, starting from 03 October 2023 to 14 November 2023, with a training schedule 3 times a week. In that period, there were a total of 16 training sessions.

The research subjects consisted of the population studied, namely members of the Yayasan Pendidikan Tunas Bangsa Malang City SLB-B, with a total of 38 individuals whose ages ranged from 8 to 12 years. The research sample was 30 deaf children from SLB-B Yayasan Pendidikan Tunas Bangsa, Malang City, selected using a purposive sampling method, considering the specified inclusion and exclusion criteria. Inclusion criteria include membership in the Malang City Yayasan Pendidikan Tunas Bangsa SLB-B as well as other relevant criteria. Malang City Yayasan Pendidikan Tunas Bangsa SLB-B members aged 8-12 years, have mild-moderate hearing loss, and are not injured, and are willing to take part in a 6-week jump rope training program with 16 meetings.

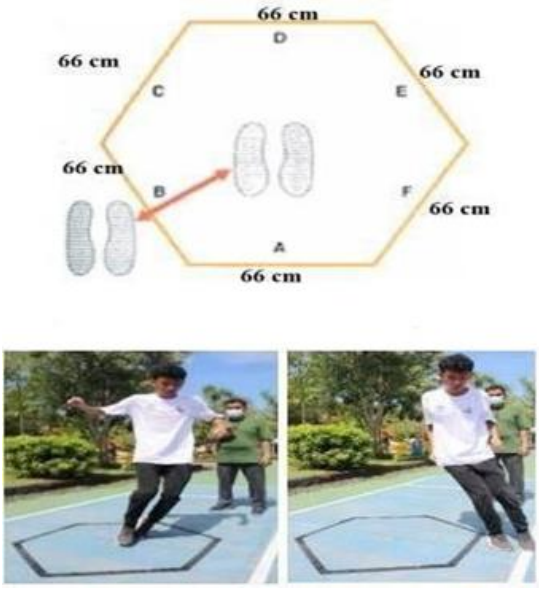

Figure 1. Field Hexagonal Agility Test and Implementation Test (Source: TKSI KEMENDIKBUD).

The exclusion criteria are SLB-B Yayasan Pendidikan Tunas Bangsa Malang City who have hearing loss classified as severe. Meanwhile, the drop out criteria are deaf children who do not

take the pretest and posttest. The independent variable is the jump rope training program. Meanwhile, the dependent variable is dynamic balance. Agility data collection uses the hexagonal agility test. (Figure 1).

The data analysis stage involves processes such as checking the distribution for normality, tested using the Shapiro-Wilk method, then followed by carrying out hypothesis testing using the paired samples T-test to reveal the effect of the treatment after the intervention is carried out. The significance assessment is carried out based on the probability or Sig value. (2-tailed), significant data differences are acknowledged to exist if the value is less than 0.05, while non-significant data differences are indicated if the value is more than 0.05.

RESULTS

Table 1 (statistical analysis of pre-test and post-test). the results research on the jump rope training program on agility in deaf children at SLB-B Yayasan Pendidikan Tunas Bangsa (YPTB) Malang City which was conducted in October-November 2023. Meanwhile, data in the table 2 showing results test normality jump rope use technique Shapiro-Wilk obtained normal pre-test and post-test data. Matter This because significance from test Jump Rope 0.495 pretest and 0.678 post-test > 0.05 Which means data the distribute normal.

Table 1. Normality Test Results

Variable	df	Sig.
Pre-test	30	0.495
Post-test	30	0.678

Table 2. T-test results observation encore (paired samples T-test) jump rope

		t	Df	Sig. (2-tailed)		
		Mean	**Std. Deviation**		**n**	**sig**
Pair 1	1 - 2	4.38167	2.53592	9,464	30	0,000

Based on Table 2, it is obtained results from analysis paired sample t-test from test is

0.000 < 0.05. In this test, the interpretation of jump increases rope seen from sig. (2-tailed) is 0.000. So, from the results of repeated observation tests obtained sig. (2-tailed) smaller than 0.05. So, got it withdrawn conclusion from results analysed the data that there are significant differences _ between test initial (pre-test) and test final (post-test). In other words, a gift exercise jump rope on the child deaf assessed effective and influential to agility child deaf SLB-B Tunas Bangsa Education Foundation (YPTB) Malang city.

DISCUSSION

Based on test dexterity skills given to deaf children at the Yayasan Pendidikan Tunas Bangsa (YPTB) SLB-B Malang City. Agility test hexagonal produces results significant of 0.000<0.05 when the hypothesis test is calculated using paired samples t-test which shows that there is a significant training effect. Based on these results, p < 0.05 experimentally indicates that H 0 is not proven, and H 1 is accepted. Therefore, there is an effect of giving the jump rope test with the Hexagon Agility Test on the agility of deaf children (significant).

The data were normally distributed in both the pretest and posttest, as indicated by the results of the Shapiro-Wilk test which showed that the pretest P-value was 0.495 > 0.05 and the posttest P-value was 0.678 > 0.05. So, the statistical test assumptions are met and can be continued with the paired t-test . According to opinion (3) exercise regular can improve physical health and other body organs so that they can be used optimally. This is because physical

activity maximizes the use of muscles and other organs. Significant benefits can be gained from training three times a week with recovery breaks, which is suitable for beginners. Repetitive movements performed during training will result in the development of conditioned reflexes, motor learning, and memorization of movements.

Many kinds of training methods have been created to train agility, one of which is training using the jumping rope or skipping method . Jumping rope or skipping is a type of exercise where you use a rope and continuously jump over it. This exercise is the simplest because it doesn't require a lot of space. According to (11) skipping is a jumping technique called "jumping rope", which involves grasping both ends of the rope and continuously swinging it over the head and feet to achieve the desired effect. According to (16) rope jumping is a sport using a rope that is held with both hands and then swung from head to toe while jumping. Majority rotation rope caused by movement wrist hand , with both horizontal arms to the sides . The rope should cross directly above the floor. Each rope jumping technique starts from the back. One of the exercises that focuses on the legs is the skipping exercise . This exercise focuses on using the muscles around the body and arms. The opinion expressed by (1) is that jumping rope training is considered a physical activity that increases motivation and reduces boredom, which ultimately leads to increased concentration and attention span. It can be concluded that skipping is the act of jumping lightly using a rope while maintaining the distance of the rope from the ground.

Components to upgrade the results of the hexagon agility test instrument are agility. Many components come together to form agility, including strength, balance, speed and coordination. According to (7) agility is a mobility skill or the skill needed to change mobility quickly is called agility. Meanwhile, according to (4) agility is the ability to quickly adjust posture or body movements while maintaining balance and awareness. Creating an agility training program is not enough just to create an agility training program to train agility; Agility must be continually taught, programmed, or structured. Training deaf children's foot coordination to make them more agile can be done through consistent, controlled and scheduled exercises. You can't just create a jump rope training program to increase agility.

Jump one leg to the right or left, alternately (like normal running), twice, or in various other ways as part of the training process. According to (14) skipping is a plyometric movement used to move the leg muscles and special muscles, which is done by jumping with one leg alternately to the right and to the left. In conclusion, skipping exercises are the best way to develop endurance, sealing strength, dexterity and the capacity to move the wrist in a way that increases its flexibility and strength. Other benefits according to (5) is that aspects of a child's total motor development will increase with jump rope training . Jumping rope affects children's physical and motor development, especially gross motor development. Using jump rope exercises can encourage certain areas of a child's gross motor development. Jumping rope can be done with one or two feet.

By being given jump rope training and by adapting the training provided, the agility of deaf children experiences a significant impact for the better. This is because with the exercises given and repetition, deaf children as respondents can adapt to the technique of how to jump with both feet together properly and this will indirectly stimulate the respondent's motor skills to form movement automation.

Increased knowledge of respondents from previous meetings is the cause of increased ability, and this link becomes stronger with repeated use. This is in accordance with the law of exercise learning theory put forward by (12) that "the principle of the law of exercise shows that the main principle in learning is repetition, the more often you repeat the lesson material, the better you will master it. In previous research according to Aksan (2012:92) with the title "*the effect of double skipping and single skipping training on increasing agility*" that practicing jumping rope or jumping rope is a good way to build leg agility. By using the hexagon agility test , this research also found that skipping training had an impact on increasing agility. This is because the rope jumping or skipping training method is an activity for jumping repeatedly

with the aim of perfecting the agility and coordination of the legs so that they have good abilities and can help the child's development.

CONCLUSION

From our best knowledge we conclude that jump rope training significantly increased the agility of deaf children at SLB-B Taman Bangsa Education Foundation (YPTB) Malang City.

ACKNOWLEDGMENT

The researcher would like to thank all those who have contributed to the preparation of this article.

CONFLICTS OF INTEREST

Conflict of interest : Authors state no conflict of interest.

Disclosure statement : No author has any financial interest or received any financial benefit from this research.

REFERENCES

1. Agustin, B., R., K., Bakri, E., & Saekhol. (2018). The Effect of Skipping Exercise on Concentration Level of FK UNDIP Students. Diponegor Medicine, 7(4), 1763- 1773
2. Aribowo, DS, guidance, T., & Rumini, R. (2019). The Effectiveness of Indonesian Traditional Games and Agility on Students' Gross Motor Skills in Elementary School Hj. Isriati Baiturrahman 2 Semarang. Journal of Physical Education and Sports, 8(3), 281- 287. https://doi.org/10.15294/jpes.v8i3.31273
3. Arifin, Z. (2018). The Effect of Physical Fitness Gymnastics Training (SKJ) on the Fitness Level of Class V Students at MIN Donomulyo, Malang Regency. Al-Mudarris: Journal Of Education, 1 (1), 22-29.
4. Daryanto, ZP, & Hidayat, K. (2015). The Effect of Agility Training on Ability Herding Ball. Journal Education Sport, 4(12), 201– 212. https://journal.ikippgriptk.ac.id/index.php/olahraga/article/view/87/85
5. Febriani, E. (2015). Efforts to Improve Children's Gross Motor Development (Jumping) Through Jump Rope Games in Group B of Al-Hidayah Palaosan Kindergarten for the 2015-2016 Academic Year.
6. Fitri, Ruqoyyah & Imansari, Meidita. (2020). Engkle Carpet Game: Motor Activities to Improve Body Balance in Early Childhood. Journal of Obsession: Journal of Early Childhood Education. 5. 1186-1198. 10.31004/obsession.v5i2.754.
7. Hamza. 2019. —The Relationship between Agility and Deep Dribbling Ability Football Game. Indragiri Sports Journal (Joi) Vol. 4 No. 1. Pg . 57—69.
8. Milenković, D. (2022). Effect of the Eight-Week Agility Development Program in Elementary School Students. Physical Education Theory and Methodology, 22(1), 134–141. https://doi.org/10.17309/tmfv.2022.1.19
9. Rahmah, F.N. (2018). Problems with Deaf Children and How to Overcome Them .
10. Rohman, S. (2015). The Effect of Rope Jump Training Using the Interval Training Method on Agility. Health journal sports , 3 (2), 207-214.
11. Shandi, S. A. (2019). Analysis of Gross Motor Movements in the Jump Rope Game on Male Students' Achievement in the Long Jump in Class VIII of SMP Negeri 2 Palibelo. Journal of Sports Science , 17 (2), 46-53.

12. Sita, AE, & Pranatahadi, SB (2019). The Effect of Training on Varying Service Distances To Accuracy Service On Player Ball Volleyball Selabora Sleman. The Effect Of Service Distance Variations Training On Service Accuray On Volleyball Ball Players Selabora Sleman. Pend. Coaching Sport- S1 , 8 (8).

13. Suciyati, H., Zaidah, L., Ft, SST, & Or, M. (2018). Differences in the Effect of Skipping Rope Training and Shuttle Run Training on the Agility of Futsal Players of Muhammadiyah 2 Gamping Middle School Students (Doctoral dissertation, Yogyakarta Aisyiyah University). Turgut, E., Çolakoğlu, F.F., Güzel, N.A., Karacan, S., & Baltacı , G. (2016). Effects of weighted versus standard jump rope training on physical fitness in adolescent female volleyball players: A randomized controlled trial. Physiotherapy Rehabilitation , 27 (3), 108-115.

14. Ummah, RT, Raharjo, S., & Adi, S. (2016). The Effect of Skipping And Plyometric Training Split Jump To Results Speed Run Sprints 60 Meters For Participant Extracurriculars Ages 15- 17 Years at SMA N 1 Turen. Journal of Sport Science, 6(2), Articles 2. https://doi.org/10.17977/um057v6i2p86-9.

15. Veiskarami, P., & Roozbahani , M. (2020). Motor development in deaf children based on Gallahue's model: A review study. Auditory and Vestibular Research. https://doi.org/10.18502/avr.v29i1.2364.

16. Warsiyanti, Y. (2019). Efforts to Improve Long Jump Learning Outcomes Through a Playing Jump Rope Approach for Class IV Elementary School Students. JPI (Indonesian Education Journal): Scientific Journal of Education , 5 (3), 179-187.