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The Effect of Agility Training Methods On Physical Fitness

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Abstract

This study aims to examine the effect of agility training methods on the physical fitness of the DKI Jakarta BPBD Rapid Reaction Team (TRC) in handling disasters in 2024. The researcher acted as a training instructor, implementing an agility training method specifically designed for this purpose. The training process followed a model developed by the researcher and approved by the BPBD training coordinator. This study involved 31 members of the DKI Jakarta BPBD TRC Rapid Reaction Team in the East Jakarta City Area. The research was conducted from June to July 2024 and included multiple training sessions aimed at enhancing physical fitness through agility training. The findings of this study are expected to provide valuable insights into the effectiveness of agility training programs in improving the physical readiness of disaster response teams.

Keywords: agility, physical fitness, rapid reaction team.

1 INTRODUCTION

In general, agility is known as one of the components needed in various sports, but agility itself is not the only determining element in carrying out sports activities in order to appear skilled in achieving peak performance, but they support each other from various physical potential elements that exist.

Agility is one of the components of motor fitness that is very much needed for all activities that require speed of changing body position and its parts. In addition, agility is a prerequisite for learning and improving motor skills and sports techniques, especially movements that require movement coordination. Furthermore, agility is very important for numbers that require high adaptability to changes in situations in the match.

In this agility component, it includes elements of dodging quickly, changing body position quickly, moving then stopping, and continuing to move as quickly as possible. Agility is a person's ability to change position in a certain area. Someone who is able to change one different position at high speed with good coordination means that their agility is quite good. Action sequences are broad categories or types of movements that include a variety of specific responses. Terms such as balance, moving, receiving or turning are conceptual action sequences because they can be done in many ways and in different situations.

Several forms of agility training, namely: Shuttle running training is a back and forth run that aims to change body movements in a straight direction. Turning and turning training is a zigzag run that aims to train changing body movements in a winding direction. Body position change training aims to train or change body position (squatting and standing upright). Agility training uses obstacles that aim to train agility in performing a movement reaction.

Agility is the body's ability to change direction quickly without any disturbance of balance or loss of balance.

The characteristics of agility are as follows: (1) Reaction agility (Able to react in various situations); (2) Adaption agility (Able to adapt to various situations and conditions); (3) Body control agility (Able to orientate towards difficult movements); (4) Orientation agility Balance agility (Having the ability to regulate balance); (5) Combination agility (Having the ability to combine or combine movements); (6) Mobility agility (Mobility in making movements such as stopping suddenly and having good skills); (7) Skill fullness (able to bring out full or all abilities);

The factors that influence agility are as follows: (1) Body type: As explained in the definition of agility, agility movements require alternating reduction and acceleration of the body. Where momentum is equal to mass multiplied by speed. Related to body type, people who are classified as mesomorphs and mesoectomorphs will be more agile than ectomorphs and endomorphs; (2) Age: Children's agility will increase until approximately 12 years of age (entering rapid growth). During this period (± for 3 years) agility does not increase, and even tends to decrease. After the rapid growth period has passed, agility increases again steadily until the child reaches maturity and then decreases again; (3) Gender: Boys show slightly more agility than girls before they reach puberty. However, after puberty the differences appear more striking; (4) Body weight; Excessive body weight will certainly directly reduce the agility of the person; (5) Fatigue: Fatigue reduces agility, especially due to decreased coordination. In this regard, it is important to maintain cardiovascular and muscle endurance so that fatigue does not easily arise.

The supporting factors for a person's agility are determined by several key elements. Firstly, reaction speed and speed of movement play a crucial role in how quickly and efficiently a person can respond to stimuli. Secondly, the ability to orientate towards the problems faced, also known as the ability to anticipate, is essential for agility. This involves quickly understanding and reacting to changing situations. Thirdly, the ability to regulate balance, which depends on the flexibility of the joints, is vital for maintaining stability and control during rapid movements. Lastly, the ability to brake motor movements, or the capacity to stop or change direction swiftly, is a significant factor in overall agility. These components together form the foundation of a person's agility, enabling them to perform complex physical tasks effectively.

Physical fitness is an important element that supports the optimal performance of BPBD officers in carrying out disaster management duties. As officers on the front lines, they are faced with situations that require quick responses and the ability to move swiftly amidst conditions that are often dangerous and unpredictable. Good physical preparedness allows BPBD officers to move more quickly when evacuating victims, carrying out rescues in difficult terrain, and acting effectively in other emergency situations.

Apart from that, maintaining physical fitness also helps reduce the risk of injury, increases the body's resistance to fatigue, and extends the optimal time spent on duty in the field. Thus, excellent physical condition is the main asset for BPBD officers in carrying out their humanitarian missions effectively and safely.

Several studies reveal that there is a strong correlation between actions taken during the emergency reaction phase and physical activity. To understand the relevance of physical fitness on an individual's emergency response, it is important to examine general physical fitness metrics and initial reactions to an emergency. A more complex approach is used when describing physical performance in emergency situations in relation to the job duties of emergency teams.

To predict job performance, it is important to perform general fitness tests and job-specific tests. All physically demanding job tasks require a high level of physical fitness. Strength, endurance, and cardiorespiratory fitness are the most important physical prerequisites for adequate work performance.

From this background, the researcher was interested in raising this problem in research with the title "THE EFFECT OF AGILITY TRAINING METHODS ON PHYSICAL FITNESS (Experimental Study on the Rapid Response Team of BPBD Disaster Management Officers for DKI Jakarta Province in 2024).

2 RESEARCH METHODS

The research method used in this research is an experimental research method (Utami et.al., 2023; Atmazaki et.al., 2023; Utami $Vioreza, 2021; Dewi et.al 2021). The experimental method is a quantitative research method that is useful for seeing the effect of independent variables (treatment) on dependent variables (outcomes) under controlled conditions. 36 This research is quantitative research which consists of two variables, namely variable X and variable Y.

The basis for using this method is an experimental activity that begins with a pret-test then provides treatment to the subject which ends with a post-test to determine the effect of the treatment that has been given. The experimental method is a way to look for a cause-and-effect relationship (causal relationship) between two factors that are deliberately caused by researchers by implementing or reducing or eliminating other disturbing factors.

3 RESULT AND DISCUSSION

The Pretest data scores can be seen in the following table 2:

Table 2. Frequency Distribution of Pretest Data

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12
Mean	3.52	3.74	3.77	3.65	3.65	3.58	3.74	3.77	3.55	3.68	3.87	3.65
Median	4	4	4	4	4	4	4	4	4	4	4	4
Modus	4	4	4	4	4	4	4	4	4	4	4	4
Std. Dev	109	116	117	113	113	111	116	117	110	114	120	113

Posttest data can be seen in table 3 below:

Table 3. Frequency Distribution of Posttest Data

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12
Mean	3.52	3.74	3.77	3.65	3.65	3.58	3.74	3.77	3.55	3.68	3.87	3.65
Median	4	4	4	4	4	4	4	4	4	4	4	4
Modus	4	4	4	4	4	4	4	4	4	4	4	4
Std. Dev	109	116	117	113	113	111	116	117	110	114	120	113

Based on the research results shown in Tables 2 and 3, it can be concluded that respondents gave a positive assessment of the role of agility and physical fitness training in improving the performance of rescue and evacuation of victims. The average value (mean) for each item ranged from 3.52 to 3.77, both at the pretest and posttest, with the median and mode mostly at 4. This shows that most respondents "agree" or "strongly agree" with the statements related to the effectiveness of agility and physical fitness training.

From the results of the questionnaire given to all samples, most officers felt an increase in movement speed during the rescue process and became more agile and responsive in emergency situations after participating in agility training. This is in

accordance with the results of the Hypothesis which shows that agility training has a significant effect on improving physical fitness, which is indicated by the ability to move faster and more efficiently.

Posttest data showed an increase in the ability of officers to avoid obstacles and improve coordination between hands, feet, and eyes during rescue tasks. These results are in line with statistical findings, where agility training has been shown to contribute significantly to complex physical abilities such as avoiding obstacles and better coordination.

Officers assessed that the agility training applied was very relevant to the needs of rescue tasks, such as lifting heavy loads and performing complex movements quickly. The significant results of the hypothesis test support this assessment, indicating that improved physical fitness through agility training can improve the ability to perform these tasks more effectively.

The posttest results showed that agility training not only improved individuals' ability to adapt quickly to changes in environmental conditions, but also in coordination with team members during the rescue. This correlation is supported by the results of the hypothesis test which showed an increase in overall performance in rescue and victim evacuation tasks after participating in the training.

The implementation of agility training in the DKI Jakarta Provincial BPBD Disaster Response Team training resulted in an increase in physical fitness that was more optimal and relevant to the needs of rescue and victim evacuation tasks. This is indicated by an increase of 4.62%. This finding is in line with research showing that structured physical training that is appropriate to task needs can significantly improve physical fitness and performance.

This study aims to examine the effect of agility training methods on the physical fitness of the DKI Jakarta BPBD Rapid Reaction Team (TRC) in handling the 2024 disaster. During the study, the researcher acted as a training instructor implementing the agility training method designed by the researcher. The training process followed a model prepared by the researcher and approved by the BPBD training coordinator. This study involved 31 members of the DKI Jakarta BPBD Rapid Reaction Team TRC East Jakarta City Area.

Agility has characteristics that play an important role in physical mobility. Agility is not a single physical ability, but consists of various components such as coordination, strength, flexibility, reaction time, and explosive power (power), all of which interact with each other. Agility can be considered a combination of coordination, speed, flexibility, and strength. Coordination itself is a complex bio motor skill, involving interactions between strength, endurance, speed, and flexibility.

Therefore, factors that affect coordination will also affect the quality of agility. The implementation of agility training in the training of the DKI Jakarta Provincial BPBD Disaster Response Team resulted in an increase in physical fitness that was more optimal and relevant to the needs of rescue and victim evacuation tasks. This is indicated by an increase of 4.62%. This finding is in line with research showing that structured physical training that is in accordance with task needs can significantly improve physical fitness and performance.

4 CONCLUSION

Based on the results of this study, it can be concluded that the agility training method has a significant effect on improving the physical fitness of the DKI Jakarta BPBD Quick Reaction Team (TRC) in handling the 2024 disaster. The results of the paired sample t-test statistical test showed a significance value (sig) of 0.00 <0.05, which means that Ho is rejected, and Ha is accepted. Thus, there is a significant difference between physical fitness before and after the application of the agility training method. Agility training has been shown to be effective in improving various components of physical fitness such as

speed, coordination, strength, flexibility, reaction time, and physical endurance. The results of the questionnaire showed that most officers felt an increase in their ability to move faster, more agile, and more responsive in emergency situations. In addition, increasing physical fitness also helps members of the DKI Jakarta BPBD TRC to be more effective in carrying out rescue and evacuation tasks, especially in dealing with changing environmental conditions and complex physical tasks.

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