The Importance of Paying Attention to Anthropometrics in the Selection Athletes

Ranu Baskora Aji Putra  
Universitas Negeri Semarang  
ranu_baskora@mail.unnes.ac.id

Tandiyo Rahayu  
Universitas Negeri Semarang  
tandiyorahayu@mail.unnes.ac.id

Woro Kasmini  
Universitas Negeri Semarang  
oktia2016@mail.unnes.ac.id

Sulaiman  
Universitas Negeri Semarang  
sulaiman@mail.unnes.ac.id

Abstract---The purpose of this study is to analyze the importance of the ideal anthropometric exercise so that it can support the effectiveness and efficiency of the training process. Systematic review method of 38 articles to identify problems, collect information, and conclusions. The review results that there are certain anthropometric characteristics in the form of height, weight, body size, fat in each volleyball, gymnastics, basketball, football, triathletes and cyclists and swimming. This shows that physiologically the anthropometrics of athletes support their best performance in each of the sports characters involved. The size of body posture is the nature of the athlete. During the process of exercise training does not have much effect on the proportion of body size. Conclusions that anthropometrics are very important in analysis to provide benefits in developing one's potential, especially in the performance

Keywords: anthropometrics, performance athletes, body posture

I. INTRODUCTION

An athlete's peak performance is demonstrated through his ability to display a series of harmonious movements, perfect with movement techniques in accordance with the characteristics of his sports branch. The skills and techniques of motion are obtained through gradual and continuous training to create motion awareness. The basis of strong motion, anthropometrics and supporting physical abilities is the foundation for achieving the peak of performance. For example, volleyball athletes with high body postures can display targeted, precise and hard spike movements, gymnastics athletes with their distinctive anthropometrics can display their mastery techniques. Anthropometry is a distinctive characteristic of each individual. The essence of Anthropometry is also a collection of numerical data that shows the size, shape, and strength of humans [1]. Research on anthropometric results shows that one's the performance and physical activity are influenced by one of its anthropometrics [2]. Anthropometric relations with appearance and movement skills include soccer athletes [3], swimming athletes [4][5], gymnastics athletes [6][7], dan basic motion skills. [8]. Anthropometric characteristics do not have much effect on the appearance of certain branches, for example in archery, chess. when viewed from the side of the movement there are differences in the characteristics of the dominant motion found in each sport, for example for bicycle racing [9] and running numbers on athletics, its performance is supported predominantly by the lower muscles [10] [11], while branches Weight lifting, golf sports requires upper body contraction [12]. The maximum appearance of an athlete will appear when there is a synergy between physical abilities, health conditions, mental and strategies and movement techniques. The appearance is the result of the training process and physiological adaptation to the characteristics of each sport being pursued. Sports coaches identify and try to develop athletes' potential optimally with efficient and effective time. One of the concerns of the trainers in an effort to develop potential in a nutshell is using talent scout selection in which anthropometric variables are one of the supporting factors. In accordance with the opinion of scientists that anthropometrics greatly influences the appearance of sprint running at 55% [13], gymnastics 45% [14]. Purpose of this article to discuss the importance of paying attention to anthropometrics in athlete training.

II. METHOD

Comprehensive systematic reviews are used to discuss the importance of anthropometrics in the athlete's training process. This method has steps to compile research questions, search and assess literature, extract data, analyze and synthesize, and report the results. [15]
Instrument questions to explore anthropometric literature in athlete training based on a philosophical foundation on ontology, epistemology and axiology.

**Review results**
Research on anthropometric specifications in sports is as follows in table 1 below.

| Author                        | Sample | Umur (Year) | Origin of sample | Sports                      |
|-------------------------------|--------|-------------|------------------|-----------------------------|
| Bester and Coetzee (2010)     | 12     | 13-18.3     | South African    | gymnastics                  |
| Peeters and Claessens (2013)  | 145    | 13.2-21.8   | World Championship | gymnastics                  |
| Massidda et al. (2013)        | 42     | 13.5-18     | Italian          | gymnastics                  |
| João and Fernandes Filho (2015) | 25   | 13-22       | South African    | gymnastics                  |
| Cavedon et al (2015)          | 91     | 13-22       | Italian          | basketball                  |
| Pyne, D. B. et al (2006)      | 495    |             | Australian       | football                    |
| Sajber, Dorica et al (2013)   | 15     | 17          |                  | Swimming                    |
| Brunkhorst, L. Kielstein (2013) | 119  | 17-         |                  | triathletes and cyclists    |
| De Groot et al (2012)         | 78     |             | Australian       | Volley ball                 |

In the research article in table 1 above it is concluded that there are certain anthropometric characteristics in the form of height, weight, body size, fat in each volleyball, gymnastics, basketball, football, triathletes and cyclists and swimming. This shows that physiologically the posture of an athlete supports his best performance in each of the sports characters involved. The size of body posture is the nature of the athlete. During the process of exercise training does not have much effect on the proportion of body size. In some developing countries, sports training that begins with the process of identifying talent in agriculture is done naturally. The development of an athlete's training process will be awaited until in time he is unable to develop the potential in the sport. This becomes less effective in relation to the much wasted training period. This happens the influence of the surrounding environment is also very influential on the cessation of the training process of team sports athletes. On the other side there is a way of identifying talents using Imiah selection. This method looks at and identifies based on coaching theory by paying attention to aspects of forming athletes from an early age through measurement. Although many factors influence how to identify talents other than anthropometrics, physical conditions are also variable in that the psychological aspects of athletes are also important in selecting athletes.

The advantage of coaches paying attention to anthropometrics in scouting a sport is as follows:

1. Facilitate training for mastering movement techniques related to a sport. Posture provides benefits in mastering certain motion techniques in the sport. Scientists examine and conclude anthropometric characteristics (height and body fat percentage) equal to each handball player position, basket ball in the game so the coach sets the position of the handball player according to his atropometrics. In individual sports, postural control in gymnastics influences the appearance of gymnastic movements.

2. Shorten training time if anthropometrics is in accordance with the characteristics of the sport.

III. DISCUSSION

In some developing countries, sports training that begins with the process of identifying talent in agriculture is done naturally. The development of an athlete's training process will be awaited until in time he is unable to develop the potential in the sport. This becomes less effective in relation to the much wasted training period. This happens the influence of the surrounding environment is also very influential on the cessation of the training process of team sports athletes. On the other side there is a way of identifying talents using Imiah selection. This method looks at and identifies based on coaching theory by paying attention to aspects of forming athletes from an early age through measurement. Although many factors influence how to identify talents other than anthropometrics, physical conditions are also variable in that the psychological aspects of athletes are also important in selecting athletes.

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2. Shorten training time if anthropometrics is in accordance with the characteristics of the sport.
With the advantage of an athlete's posture faster in the training process. An anthropometric comparison study of non-athlete volleyball athletes showed that volleyball athletes were significantly higher than non-athletes, this accelerates volleyball training time. Another study of anthropometric futsal players in the high category is lacking, this supports the agility in moving.

3. Can plan an exercise program that is appropriate to the characteristics of anthropometrics tailored to the training needs of the sport. With the right and fast information, it will make it easier for the trainer to solve problems and plan improvement programs during the training process.

IV. CONCLUSION

In general it is concluded that certain sports require anthropometric advantages to support optimal movement skills and appearance. Posture is a visual description of a person anthropometrics. Research to find out the condition of posture related to balance control, overall child psychology, sports. This shows that a person's anthropometrics is very important in analysis to provide benefits in developing one's potential, especially in appearance.

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