Chapter 8

THE EXAMINATION OF SOME PHYSICAL AND BIOMOTOR PARAMETERS OF TURKEY NATIONAL WOMEN BOXING TEAM DURING THE WORLD CHAMPIONSHIP PREPARATION CAMP[1]

Raif ZİLELİ[2]
Mehmet SÖYLER[3]

INTRODUCTION

Boxing, sometimes referred as pugilism, being one of the oldest sports in the history is considered to be a "noble art". In order to show a high-level and efficient performance, boxers need to develop their technical-tactical skill and improve their physical and physiological fitness (Chaabene et al., 2015). In today's boxing, the boxing matches are quite exhausting. Throughout a match, theintensity of the competition affects the performance of boxers such as how many effective blows a boxer can land; a dominant boxer in one match lands approximately 300 blows. It must also be noted that a good boxer is able to fight at a distance. The defense movement structure of boxers was studied on and it was seen that during a match using hands to defend oneself constitutes 49% of the boxers'defense movements, using one's legs was 3%, and boxers used their torso to defend themselves 18% of the time (Swiecicki et al., 2013). Being a technical and tactical sport, professional boxing requires athletes to be able to perform high-intensity movements with low intensity activity periods and recovery.

To achieve the highest performance level at boxing, effective technique, tactic, physical and mental capacity are required (Ruddock et al., 2016). The number of studies done with elite women boxers in our country is limited. When these studies were reviewed, Çınar et al. (2009) compared women boxers with handballers; Var&Marangoz (2018) compared women boxers with volleyball, handball, football, taekwondo and tennis players. Çakmakçı et al. (2005), Pala

[1] This research was presented at the 16th International Sport Sciences Congress on 31stOctober – 3rd November 2018, Antalya, TURKEY.

[2] Bilecik Seyh Edebali University School of Health (Bilecik, Turkey) raif.zileli@bilecik.edu.tr
[3] ÇankırıKaratekin University Yapraklı Vocational School (Çankırı, Turkey) mehmetsoyler@karatekin.edu.tr

The last finding obtained as a result of the research is the anaerobic power values of the athletes. The average pre-camp anaerobic power of the athletes was 993.64 w, and 929.21w after the camp, and the development rate was -6% (Table 2). Savaş and Uğraş (2005) determined in their study that they investigated the effects of six-week preliminary training program before the 2nd World Women's Boxing Championship on selected physical and physiological parameters of Turkish women's national boxing team, the average anaerobic power value increased from 52.00 kgm/s to 53.57 kgm/s. Kıyıcı et al. (2016) found that the average anaerobic power value was 60.47±8.15 kgm/s in a study conducted with national women boxers who had a mean age of 20.17±3.3 years. Among thetotal 16 boxers, 11 wore Turkish National Team Uniform, and 5 of them was the first three in the Turkish Championship having the degree of the World and Europe. In addition, in a study,changes and developments in some physical and respiratory parameters were investigated after 12-week training program, and the pre-test anaerobic power averages of the boxers were 118.96 kg/s and the final test averages were 119.62 kg/s (Çakmakçı et al., 2005). Selçuk (2014) stated that it is more effective to use the fixed resistance method to perform the resistance test for boxers because of the increase of anaerobic power of fixed resistance tire exercise (Selçuk, 2014) when working with 12 women boxers at elite level between aged 19-23. In the literature of martial arts, anaerobic power parameterwas found to be 621.4 w in American National Women Teakwondo team (Bridge et al., 2014), and in sub-elite women kickboxers it was found to be 8.6 w.kg-1 (Slimaniet al., 2017). Our findings are similar to the literature, and we can say that the athletes had a beneficial camp period positively contributing to the speed and vertical jump parameters.

In conclusion, we can say after a well-designed twelve-week of training camp,there seen positive changes in all measured physical and biomotor features of Turkey National Women's Boxing Team before the World Championships. Developments in the body weight, BMI, body fat percentages, anaerobic power and 10 m speed values are interrelated with each other. These developments can improve over all performance of boxers in World Championship. Furhermore, we agree on the fact that more studies, in terms of similar or different parameters, on elite women boxers should be carried out.

REFERENCES

Bayraktar, I. (2013). Relations between elite boxers' agility, speed, reaction and vertical jumping competencies.*Academic Sight, 35*(3), 1-8.

Bridge, C. A., da Silva Santos, J. F., Chaabene, H., Pieter, W., &Franchini, E. (2014). Physical and physiological profiles of taekwondo athletes. *Sports Medicine*, *44*(6),

713-733.

Casals, C., Huertas, J. R., Franchini, E., Sterkowicz-Przybycien, K., Sterkowicz, S., Gutiérrez-García, C., & Escobar-Molina, R. (2017). Special judo fitness test level and anthropometric profile of elite Spanish judo athletes. *The Journal of Strength & Conditioning Research*, *31*(5), 1229-1235.

Chaabène, H., Tabben, M., Mkaouer, B., Franchini, E., Negra, Y., Hammami, M., ...&Hachana, Y. (2015). Amateur boxing: Physical and physiological attributes. *Sports medicine*, *45*(3), 337-352.

Chatterjee, P., Banerjee, A. K., Majumdar, P., & Chatterjee, P. (2005). Oxygen consumption, heart rate and blood lactate response during sparring on indian women boxers. *International Journal of Applied Sports Sciences*, *17*(2).

Chatterjee, P., Banerjee, A. K., Majumdar, P., & Chatterjee, P. (2006). Changes in physiological profile of indian women boxers during a six week training camp. *International Journal of Applied Sports Sciences*, *18*(2).

Çakmakcı, O., Çınar, V., Çakmakcı, E., &Görücü, A. (2005). Effects of 12-week training program on some physical and physiological parameters in the elite boxers. *Physical education and sports sciences journal*, *7*, 1-6.

Çınar, V., Savucu, Y., &Polat, Y. (2009).Investigation on some physical parameters of elite female boxing and handball players. *Sport Sciences*, *4*(3), 171-178.

Davis, P., Benson, P. R., Waldock, R., &Connorton, A. J. (2016).Performance analysis of elite female amateur boxers and comparison with their male counterparts. *International journal of sports physiology and performance*, *11*(1), 55-60.

de Lira, C. A. B., Peixinho-Pena, L. F., Vancini, R. L., Fachina, R. J. D. F. G., de Almeida, A. A., dos Santos Andrade, M., & da Silva, A. C. (2013). Heart rate response during a simulated Olympic boxing match is predominantly above ventilatory threshold 2: a cross sectional study. *Open access journal of sports medicine*, *4*, 175.

Devecioğlu, S., &Pala, R. (2010).The contribution body composition of boxers to sportive achievement.*Fırat University Medical Journal of Health Sciences. 24* (2), 115 – 122.

Eyuboğlu, E., Özkan, A., Köklü, Y., Alemdaroğlu, U., Akalan, C. (2009). An investigation of relationship between various pprotocols of anaerobic performance tests in american football players, *Journal of Human Sciences, 6*(2): 368-379

Fox, E.L, Bowers, R.W, Foss, L.M. (1999). *Physiological Foundations of Physical Education and Sports*, Bağırgan Press, Ankara, 15.

Guidetti, L., Musulin, A., &Baldari, C. (2002). Physiological factors in middleweight boxing performance. *Journal of sports medicine and physical fitness*, *42*(3), 309-314.

Kıyıcı, F., Taş M., Bayraktar, I., Erhan E. (2016).The study of relationship between some chosen parameters and anaerobic strength abilities of elite boxers.*Journal of Physical Education and Sport Science 18*(2): 23-34.

Muhammed EmreKaraman. (2015). Theeffect of body fat percentage on balance and some physical properties of 14-17 years old elite female boxers. Gazi University Institute of Health Sciences. M. Sc. Thesis.

Otman, S. A., Demirel, H., & Sade, A. (1998).Tedavi hareketlerinde temel değerlendirme prensipleri. Ankara. *Hacettepe Üniversitesi Fizik Tedavi ve Rehabilitasyon Yayınları 16, 2.Baskı*.

Pala, R., &Savucu, Y. (2011).Examination of some physical and oxidative stress parameters of Turkish National Boxing Team during training camp to European Championship. *Fırat University Medical Journal of Health Sciences*, *25*(3), 115-120.

Perez-Gomez, J., Rodriguez, G. V., Ara, I., Olmedillas, H., Chavarren, J., González-Henriquez, J. J., &Calbet, J. A. (2008). Role of muscle mass on sprint performance: gender differences?. *European Journal of Applied Physiology*, *102*(6), 685-694.

Ruddock, A. D., Wilson, D. C., Thompson, S. W., Hembrough, D., &Winter, E. M. (2016). Strength and conditioning for professional boxing: recommendations for physical preparation. Strength and Conditioning Journal, 38(3), 81-90.

Savaş, S., &Uğraş, A. (2005).Research of physical and physiological properties Turkish national boxing team.*Journal of Physical Education and Sport Science. 7*(1), 1-6.

Sevim, Y. (2002). *Training Science*. Nobel Press. Ankara, 233.

Serin, E., &Taşkın, H. (2016).Association between anaerobic endurance and vertical jump.*Journal of Sports and Performance Researches, 7*,(1), 37-43.

Selçuk, M.S. (2014). In female boxers, the effect of application of resistance band for 6 weeks on the maximum force and anaerobic power. Selçuk University, Institute of Health Sciences. M. Sc. Thesis.

Slimani, M., Miarka, B., &Chéour, F. (2017).Effects of competitive level and gender on anthropometric profile and physiological attributes in kickboxers. *Collegium antropologicum*, *41*(3), 267-264.

Swiecicki L, Klukowski K, Hubner-Wozniak EH.(2013). Assesment of trainin status in elite boxers.Med Sport, 17 (1), 29-34.

Tabben, M., Chaouachi, A., Mahfoudhi, M., Aloui, A., Habacha, H., Tourny, C., &Franchini, E. (2014).Physical and physiological characteristics of high-level combat sport athletes. Journal of combat sports and martial arts, 5(1), 1-5.

Tamer, K. (2000).*The Evaluation and the Measurement of Physical and Physiological Performance in Sports*.Bağırgan Press, Ankara.

Trutschnigg, B., Chong, C., Habermayerova, L., Karelis, A. D., &Komorowski, J. (2008). Female boxers have high bone mineral density despite low body fat mass, high energy expenditure, and a high incidence of oligomenorrhea. *Applied Physiology, Nutrition, and Metabolism*, *33*(5), 863-869.

Var, S. M., &Marangoz, I. (2018).The relationship between anaerobic performance and lower extremity volume and mass in female athletes in individual sports and team sports. *Journal of Education and Learning*, *7*(6), 178-183.

World Health Organization. (2011). Waist circumference and waist-hip ratio: Report of a WHO expert consultation, Geneva, 8-11 December 2008.

Zorba, E., &Saygın Ö. (2009).*Physical Activity and Physical Fitness*.İnceler Press, Ankara.