Analysis of Aerobic Capacity of Master Basketball Players from a Goiania Team

Silva NP and **Marques VA**

Laboratório de Avaliação do Movimento Humano, Universidade Federal de Goiás, Brazil

Keywords: Physical Exercise and Aging, Functional Capacity, Health and Aging

Abstract:

To analyze the aerobic capacity of basketball players from a team in Goiânia. A total of seven master basketball players participated in the study, all males between 50 and 71 years old and with an average age of 59.85 years. The volunteers' anthropometric data were collected, in addition to the six-minute walk test. Regarding the BMI, 42.9% of the practitioners had levels of excess weight. In the six-minute walk test, the results were 27.71% higher. Master basketball athletes showed aerobic capacity above expectations, showing good performance for sports, in addition to daily activities.

Introduction:

The elderly population has grown demographically and is becoming increasingly significant today. Because of this, several researchers have sought to investigate aeras related to the functional capacity, aerobic, health and quality of life of the elderly in order to promote strategies that minimize the impacts caused by aging.

In this context, one of the most suggested strategies in the literature is the practice of physical exercises and being sport a category of it, we include basketball here as a modality adopted by older individuals. In addition, the benefits of sports are inexpensive and accessible to individuals of any age. With this in mind, this study aims to analyze the aerobic capacity of basketball players from a team in Goiânia.

Methods:

Seven individuals were selected, aged between 50 and 71 years old, all male. The main characteristics of the sample are shown in table 1.

Criteria	Average
Age (years)	59,85
Body Mass(kg)	93,28
Height (m)	1,84
Body Mass Index (kg/m2)	27,46

Table 1: Participant Characteristics

Exclusion criteria: high cardiovascular risk disease, muscular or skeletal impairment, do not participate in training at least twice a week.

All volunteers signed the term informed consen form – (TICF), the following day they underwent na anthropometric assessment and after 24 hours the 6-minute walk test was performed minutes. This study was approved by the Ethics Committee of the Federal University of Goiás.

Body mass was measured using an analog scale (Filizola, Personal 7708, Brazil) and height using a stadiometer (Seca, Brazil). from that, the body mass index (BMI) was calculated.

The volunteer completed a 45-meter course, in which they would gave to do as many laps a possible in six minutes. The data were analyzed using Microsoft Excel 2010 and Microsoft Word 2010.

Discussion: The results show a higher rate of overweight among the players, according to the average BMI show in Table 2. Regarding aerobic capacty, the athletes covered 578.5 m at na average speed of 5.76 km/h in the test 6 minutes (Table 3).

Criteria	Frequence (n)	Percentage (%)	Body Mass Index BMI (kg/ m2)*
Lower Weight	0	0	Até 18,4
Eutrophic	2	28,8	18,5- 24,9
Overweight	3	42,9	25- 29,9
Obesity I	2	28,8	30-34,9
Obesity II	0	0	35-39,9
Obesity III	0	0	40 ou mais
Total	7	100%	

Table 2. Body mass index classification

Criteria	Frequence (n)	Percentage (%)	Body Mass Index BMI (kg/ m2)*
A	56	674	6,73
B	53	666,5	6,66
C	62	547	5,43
D	51	578	5,76
E	71	514	5,11
F	63	570	5,68
G	63	500	4,96
Average	59,85	578,5	5,76

Tabel 3. Distance covered in the six minute walk test (6MWD)

The results show that most athletes are overweight (42.9%) and have an aerobic capacity above that predicted for a population of the same age group (27.71%). Anthropometric data corroborate the study by Correia and Silva, where mean values of 27.1 kg / m2 (overweight) were found in a relatively larger sample of male basketball players.

Regarding the 6-minute walk test, the results were higher than expected by about 30% more, according to the equation by Iwama et al., the distance covered varied between 500 and 674 meters, on average, 578, 5 meters. These results are similat to the study by Silva

et al., (2004), where the test was applied to a sample of 26 elderly people between 56 and 85 years of age who participated in a physical exercise program, the distance covered by these individuals it varied between 456 and 716 meters in a forecast of 408.3 meters, thus exceeding 20% of the forecast in the distance covered for six minutes.

Conclusion

Therefore, it is clear that the practice of basketball tends to favor the autonomy and independence of the elderly by increasing aerobic capacity. However for a deeper analysis it would be interesting to carry out a more complete evaluation protocol.

Reference:

1. Carvalho JAM, Garcia RA. O envelhecimento da população brasileira: um enfoque demográfico. Caderno de Saúde Pública 2003 mai./jun; 19(3): 725-33.
2. Carvalho J, Soares JMC. Envelhecimento e força muscular-breve revisão. Faculdade de Ciências de Desporto e de Educação Física. Universidade do Porto. Revista Portuguesa de Ciências do Desporto, 2004, vol.4. n. 3 (79-93).
3. Correia L, Silva MR. Anthropometric Profile of Senior Basketball Players, Faculty of Sciences, University of Lisbon, Porto, v.6, n.1, p. 452- 461, 2009.
4. Gordon CC, Chumlea WC, Roche AC. Stature, recumbent lenght, and weight. Anthropometric standardization refernce manual. Chamapaing, Illinois. Human Kinetics Books v.1, n.1, 1988.
5. Iwama AM, Andrade GN, Shima P, Tanni SE, Godoy I, Dourado VZ. The 6 minute walk test and body weight-walk distance product in healthy Brazilian subjects. Braz J Med Biol Res. v.42, n. 11, 2009.
6. Rikli RE, Jones CJ. Teste de aptidão física para idosos. Barueri: Manole, 2008.
7. Silva BM, Teixeira DDC, Del Grossi CL, Zarpelon B, Ito RY, Hermann RF, Dias MVDS, Brunetto AF. Caracterização da intensidade de exercício do teste da distância percorrida em 6 minutos em idosos fisicamente ativos. Ciência, Biologia e Saúde: Unopar Cient, Londrina, v. 5 – 6, n. 1, p. 15 – 21, 2004.