

Influence Physical Preparation on Speed Quality in Young Basketball Players Congolese 16 Ages (U16)

Anatole Ibata^{1,2}, François Entsiro^{2,3}, Jean Luc Euloge Olingou^{1,2},
*Gabin Balou Fernandes^{2,4}

¹Laboratory of Exercise Physiology and Biomechanics, Higher Institute of Physical Education and Sports, University Marien Ngouabi P. O. Box 69 Brazzaville, Congo

²Laboratory of Didactic of the Physical and Activities, Higher Institute of Physical Education and Sports, University Marien Ngouabi P. O. Box 69, Brazzaville, Congo

³Pulpit UNESCO in science of education for Africa higher normal Power station-School, University, University Marien Ngouabi, P. O. Box 69, Brazzaville, Congo

⁴Laboratory of Biosciences and Sports, Higher Institute of Physical Education and Sports, University Marien Ngouabi P. O. Box 69 Brazzaville, Congo

Abstract: *The basketball is intermittent sport with mixed intensity, requiring fast and/or explosive movements repeated [1]. During a meeting of basketball, the athletes traverses between 8 and 10 km with a heart rate (FC) near to 80% [2]; beyond that, it carries out on average a hundred sprints in against attacks for a fixing of the shooting in suspension or beyond the area of 6,25 meters, area in which the basketball players carry out on a distance from approximately of seven meters the shots with the baskets, or the decisive actions are then explosive movements on a bottom of force explosive speed, with the actions of blocks dribble shootings to the baskets [3]. In addition, to unbalance an unfavourable defense or a defense in particular, the attackers basketball players carry out sprints with reaction explosive followed by offensive techniques (dribble, pretences, blocks turnings left/right), separately and contrary to the techniques carried out in the majority of time of the evolution of the plays in its entirety followed by times of pause (interception of master key, counter them attacks, the play in inter action explosive followed of counter retroactive; pauses) (idle period [4]). Consequently, to be powerful in the basketball players evolving/moving in a team especially for the actions of attack/defense, however, according to [5] the drive of this quality induced of the adaptive mechanisms neuromuscular whether the retroactive sprint is carried out on line with change of directions in the explosive retro act of attack during a match of basketball [6].*

Key words: *Improvement speed, drive, Basketball, young basketball players.*

I Introduction

The basketball is a sporting physical activity (APS) which carry a universal character Like all the on a worldwide scale practised APS, it constitutes a social fact and thus is characterized by a coding marked by regulated standards. It reached a high level of perfection and like any sport of excellence, its ultimate concern is the performance, which depends on several factors of a physical nature, technical, tactical, psychology [7]. Indeed, the basketball is consisted an alternation of short sprints, jumps and rest active or passive [8; 9]. Its practice requires anticipating the master keys and is dissociated, to avoid the opponent, to change direction, to run in attack and to return also quickly in defense (retroactive work) [10]. It appears that the fundamental characteristic of the player of tennis shoe is well his alactic anaerobic power (explosive power which is the product of an explosive force and a spontaneous speed) [11]. However the logic of the physical preparation recommended for a long time in many clubs consists in centering work on the endurance, since this aptitude corresponds to 90% of the time of play [12; 13]. This design conceals obvious limits, because the really determining phases like the conquest of the ball, the shooting, the duels, the jumps call upon efforts of the explosive types. It is this report which pushed Cometti [14] to reverse the pyramid built a long time and maintained for the physical drive of the collective sports. Pyramid whose very broad base consists of a development of the endurance (die aerobic) and of a very narrowed top reserved for the drive of the anaerobic die responsible for the explosive actions [1]. This design of the drive privileged the work of the endurance during the generalized physical

preparation (PPG). On the other hand current design developed by Cometti [15] is to work in an alternate way and at the same moment the anaerobic die responsible for the explosive actions and the aerobic die allowing the sportsmen to repeat several times these last in an effective way in a match and especially at the time of the training sessions. Thus we propose to study the improvement speed in young basketball players Congolese old from 15 to 16 years

2. Material and methods

The survey was about thirty topics of sex masculine of the clubs of basketball of Brazzaville the respective ages of 15 to 16 years (U16) have been submitted to a training of a cycle of practice of eight sessions (lessons), in an established practice continuum according to the norms of work to the transversality of the experimental group and the control group having the same continuum of work understood the sporty physical activities following the young basket players. They underwent some practices during eight weeks of activity; they have been submitted to every beginning and end of practice cycle to anthropometric measures done constituent the explanatory variables have: age, the size and the weight served to the calculation of the bodily mass indication in order to appreciate the nutritional state of the young basketball players.

The physical faculty has been valued by the slant of the tests: 10m, 20m, 30m and the 4 x 10m.

3. Statistical analyses

Given them gotten at the time of the anthropometric measures and the administration of the tests of faculties have been treated by means of the descriptive statistic by the use of the software Excel. This treatment consisted in calculating the average more or less standard duration. The middle inters groups have been compared with the help of the test of Student while the means post tests and pre-test cyclic have as for them been compared thanks to the test of variance analysis (ANOVA).

4. Results

The average values of the studied variables will be presented in pictures or will represent the results of the comparison before and after practice.

Anthropometric features

Age, the size, the bodily mass and the indication of bodily mass of the basket players submitted to a training of the APS more or less in a transverse continuum of practice under the shape standard duration

Table 1: Age, size, body mass, and index of body mass of the subjects subjected to the drive of basketball in the form more or less standard deviation ($\bar{X} \pm \delta$)

Characteristics	Before (n=30)	After (n=30)	Significance	
			t	p
Age (year)	15.35± 0.91	16.32 ±0.90	0.65	NS
Size (cm)	168.00 ±5.55	16.77 ±4.04	0.24	NS
Body mass (kg)	64.16 ±4.69	64.35 ±4.47	0.21	NS
IMC (kg m-2)	23.07± 2.26	23.03 ±1.74	0.15	NS

NS: nonsignificant difference

The variables of ages, the size and the weight of the young basketball players were arithmetic identical

Table. 2: Comparison of the average values of the Heart rate of rest (FCR), of the fatty Mass (MG) and the Mass without grease (MSG) in the form more or less standard deviation ($\bar{X} \pm \delta$)

Variables	Before (n = 30)	After (n = 30)	T	Significance	Thhrshold
FCR (b/mn)	73±11.32	72±9.83	0.54	NS	P> 1%
MG (kg)	8.16±3.36	7.08±29.4	1.53	S	P< 1%
MSG (kg)	61.33±6.40	63.82±6.99	1.79	NS	P> 1%

FCR: heart rate at rest MSG: thin mass MG: fatty mass

S: statistically significant difference

NS: difference not statistically significant

MG: Fatty mass

MSG: Mass without fatty

P: %

After the eight weeks of drive, the average FCR and the average MSG of our subjects significantly did not

vary. On the other hand the MG average significantly dropped.

Physical capacity

Table. 3: average more or less standard deviation ($\pm\tilde{O}$) of the comparison of the parameters: explosiveness with starting (ED), explosiveness and promptness (EV), simple speed (VS), speed endurance (VE) and the second (' ') average speed before and after 4 weeks of drive.

Variables	Before (n= 30)	After (n=30)	T	Significance	Threshold
ED (")	1"58 \pm 1.14	1"57 \pm 0.15	0.32	NS	P> 1%
EV(")	2"89 \pm 0.16	2"88 \pm 10.23	0.24	NS	P> 1%
VS (")	4"36 \pm 1. 25	4"29 \pm 0.28	1.02	NS	P> 1%
VE (")	10"02 \pm 0.50	9"91 \pm 0.39	1.19	NS	P> 1%

ED, explosiveness with starting; EV, explosiveness and promptness; VS, simple speed; VE, speed endurance and the (") , second

NS: nonsignificant difference

There is not any difference in statistically significant average if one compares the parameters speed before and after 4 weeks of drive.

Table. 4: average more or less standard deviation ($\pm\tilde{O}$) of the comparison of the parameters: explosiveness with starting (ED), explosiveness and promptness (EV), simple speed (VS), speed endurance (VE) and the second (' ') average speed before and after eight weeks of drive

Variables	Before (n=30)	After (n=30)	T	Significance	Threshold
ED (")	1"58 \pm 0.14	1"40 \pm 0.11	3.78	S	P< 1%
V(")	2"89 \pm 0.16	2"66 \pm 0.20	2.95	S	P< 1%
VS (")	4"36 \pm 0.25	4"08 \pm 0.22	3.56	S	P< 1%
VE (")	10"02 \pm 0.50	9"65 \pm 0.31	4.24	S	P< 1%

ED, explosiveness with starting; EV, explosiveness and promptness; VS, simple speed; VE, speed endurance and the (") , second

S: highly significant difference;

There is a difference in statistically significant average if one compares the variables the speed before and after 8 weeks of drive.

Table.5: average more or less standard deviation ($\pm\tilde{O}$) of the comparison of the parameters: explosiveness with starting (ED), explosiveness and promptness (EV), simple speed (VS), speed endurance (VE) and the second (' ') average speed before and after eight weeks of drive;

Variables	Before (n= 30)	After (n=30)	T	Significance	Threshold
ED (")	1"57 \pm 0.15	1"40 \pm 0.11	6.41	S	P< 1%
EV(")	2"88 \pm 0.23	2"66 \pm 0.20	4.82	S	P< 1%
VS (")	4"2.9 \pm 0.28	4"08 \pm 0.22	4.24	S	P< 1%
VE (")	9"91 \pm 0.39	9"65 \pm 0.31	4.86	S	P< 1%

ED, explosiveness with starting; EV, explosiveness and promptness; VS, simple speed; VE, speed endurance and the (") , second S *: highly significant difference;

The average values of the variables speed statistically dropped if one compares them between 4 and 8 weeks of drive.

5. Discussion

The present article has been dedicated to the exam of the improvement of the quality speed at the young Congolese basket players. To this topic, a survey of type transversal has been led while doing the anthropometric measures and the different tests of race on a set of distance : 10m, 20m, 30m, 40m and of the race shuttle 10.5m [16] The motor coordination is an ability closely bound to the bodily composition [17]. The middle cardiac frequency of our topics before practice is of 73 beats / min.. This value is slightly superior to the one of the healthy and sedentary adult man (65 to 70 bat/mn) [18]. This value raised of the cardiac frequency of our topics could explain itself by a non adapted physical practice or by a thimble-practice of the topics during vacations. After 4 weeks of practice of the speed we didn't value the cardiac frequency [19; 20].

However she/it didn't lower meaningfully after 8 weeks of practice (72 bat/mn). The results of our survey show that the program of practice of the speed proposed doesn't have a meaningful effect on the cardiac frequency of rest. We would be tempted to say that the length and the intensity of the practice didn't have any meaningful effects on the parasympathetic nerve, cardio-moderator [18]. The fat mass is subdivided in two subsets: the constituent fat mass and the standby fat mass. We interested ourselves solely to the standby fat mass [21] The middle fat mass of our topics before practice is 8.16kg. This value is slightly lower (in absolute value) to the one of the reference man (8.4kg) [21]. So we cannot stop from supposing that our topics don't do a practice enduring that would allow them to burn the reserves of lipids. One could also think that they have a food régime rich in lipids. We didn't value his/her/its value after 4 weeks of practice. However, she/it lowered meaningfully among our subjects after 8 weeks of practice (7.08kg). Our results are in concordance with those of [22] that returned that a very adapted practice program entails a reduction of the fat mass. The fat mass loss is in general the objective of the athletes high-level that are regularly to the quest of performance [22]. It is the reason for which some take to inadequate food régimes, none prescribed by dietitians. These régimes can have ominous secondary effects (amenorrhoea, anorexia)[21].

The skinny mass is the component of the composition bodily consumer of energy because it is essentially constituted of muscular mass more the constituent non lipidic of the human body [21]. The middle skinny mass of our sample before the practice is (61, 33±6.40 Vs kg 63.82±6.99 kg). His/her/its averages are superior to the one of the reference man (48.7kg).

The skinny mass has not been valued after 4 weeks of practice. However after 8 weeks she/it increased non meaningful way (63.82±6.99kg). In general, the non meaningful increase of the skinny mass at the end of a practice requires to study advantage the improvement of the parameters of re drive (intensity, length) and the applied food régime. According to [23] this increase of the skinny mass is largely due to the time to a loss important of the bodily mass and the fat mass.

The average values of the parameters of the speed (ED, EV, VS, and VE) our topics didn't lower meaningfully after 4 weeks of practice (Table .2). However one note that they decreased meaningfully, if one compares the average values before and after 8 weeks of practice (Table 3) or after 4 and 8 weeks of practice (table.4). It would allow us to say that 4 weeks of practice of the speed with the proposed program would not improve a meaningful way the performance of the basketters at the time of one match. On the other hand, we can say that a program of practice of the speed of 8 weeks would be appropriated more to improve the speed of our topics. The middle explosives of our topics before the practice is of (1"58± 0.14 seconds). This value is lower to the performance of reference that is of 1"86 seconds returned by Palfai [24] among the young footballers aged from 16 to 17 years. This performance of reference is as superior to the individual securities of our topics. It especially explains itself by their innate qualities. But it doesn't exclude the need to improve the explosives because there are some that drag again. At the end the 4th week, the Ed's performance lowered non meaningful manner (1"57±0.15 secondes). However she/it decreased meaningfully at the end of the 8th week of practice to reach (1"40±0.11 seconds). To finish, we can say that 4 weeks of practice would seem insufficient to improve the explosives to the starting. The middle vivacity of our topics before practice is (2"89±0.16 seconds). She/it lowered meaningfully after 8 weeks of practice (2"66±0.20 seconds). Our results are in concordance with those of that returned an improvement of the explosives of the aged young footballers of Djambala of 16 to 17 years after 8 weeks of practice. Four weeks of practice of the speed seem therefore insufficient to improve the explosives and the vivacity. An extension of the practice of 4 supplementary weeks would also improve it in a meaningful way. The middle simple speed of our topics out of 20m before practice is (4"36±0.25secondes). She/it is comparable and same inferior the one of reference returned by Palfai (4"39) [24]. At the end the 4th week of practice, the middle simple speed of our topics is not meaningfully himself improved

(4"29±0.29secondes). However at the end of the 8th week, the team became faster. The performance passed from 4"29 to 4"08. The test of race shuttle 4x10m gave a middle performance of (10"02±0.50 seconds). This performance lowered but in a non meaningful manner at the end of the 4th week (9"91±0.39 seconds). This decrease is himself for consistent until the 8th week (9"65±0.31secondes), at the end of which it is meaningfully less elevated. The performance of the staying speed confirms 4 weeks of practice once more than are not sufficient to improve the speed of the basket players aged from 15 to 16 years. **6.**

Conclusion

Our survey, as most the one that was about the impact of the physical preparation on the quality speed; has pratics : the efficiency of a good practice programs physical preparation to maximize the performances in sprint during the basketball ; t

he influence of the type of assessment test on the progress noted follow-ups of the improvement of the speed at the basket players in relation with a preparation physical individualized ; considering the technico-tactical work at the young basket players in formation, a specific physical preparation constitutes an efficient strategy to improve the performance of the quality speed, without problem of interference between the development. In short, this survey is revealing of the improvement of the quality speed during the practice of basketball and according to the age of the topics evolving to the «Reconciliation basketball - club of mfilou (RBC), or a program of practice of eight weeks because of two sessions per weeks has been submitted to them.

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