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CONCLUSIONS

The absence of re-WU activities in the time-course between the WU and the beginning of the match may be detrimental to players' physical performance. However, the inclusion of re-WU exercises prior to match is a very delicate issue, since the manipulation of volume, intensity and recovery may positively or negatively affect the subsequent performance (Robbins, 2005). In fact, our research shows that

eccentric exercise prior a football match may be harmful for physical performance. However, plyometric and repeated changes of direction exercises seem to be efficient active strategies to attenuate losses in vertical jump and sprint capacity after WU.

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Physical fitness in youth basketball players in pre and post season under a strength program effect.

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INTRODUCTION

Basketball it's an acyclic modality characterized by an intermittent effort, direction changes and a hypersolicitation of upper and lower limbs. Thus, it depends of a physical excellence to individual or collective performance improvement. The aim of this study was to evaluate the physical fitness in youth basketball players in pre-season and post-season under a strength program.

METHODS

The sample were composed by 12 male basketball players (under-18), with participation in Regional and Nacional Competitions. For physical fitness the following variables were evaluated: Mass (kg); Height (m); upper limbs (push-ups/30s) and lower limbs strength (horizontal jump without preparatory race); coordination (dribbling barriers and lay up finalization in seconds); Speed (20 meters sprint in seconds); Flexibility (“seat and reach” and “up the back” in cm). The evaluation two moments occurred in September 2015

and January 2016. The strength program was characterized by: 5min of criss-cross; 4 sets of 10 pus-ups, curl ups, back extensions, vertical jumps and burpees. The training session was divided in three moments, the warming up followed by the strength program, fundamental part (technic and tactic training) and the final one (stretching). Kruskal-Wallis allowed to check statistical differences between the moments.

Table 1
Means and standard deviations in the first and second evaluation moment.

Variables	Moment 1	Moment 2	F Test
Age	15.83± .55	16.42±0.64	4.441; p=0.035*
Mass	73.67± .58	74.25±8.42	0.13; p=0.908
Height	1.84±0.08	1.86±0.06	0.371; p=0.542
Wingspan	1.86± .08	1.87±0.07	0.068; p=0.794
ULS	31.58± .49	37.73±6.12	4.278; p=0.039*
LLS	2.33±0.21	2.36±0.16	0.459; p=0.498
Coordination	13.16±0.27	6.86±0.62	6.367; p=0.012*
Speed	2.94±0.08	2.91±0.11	0.547; p=0.459
Seat and Reach	10.25±8.28	9.42±9.57	0.191; p=0.662
Up the Back	-13±9.52	13.45±8.45	13.677; p<0.001*

Legend: 1 – ULS: Upper Limbs Strength; LLS: Lower Limbs Strength; *p<0.05;

RESULTS

Improvements in all variables were observed in exception of the seat and

reach test. Statistical differences were observed in age, upper limbs strength, coordination and up to back test. Table 1 presents results in means and standard deviations in the two evaluation moments.

CONCLUSION

Despite all variables improvement in exception of seat and reach test, it seems that the statistical differences comes from strength program. The upper limbs

strength might become from burpees and push-ups exercises. The coordination improvement should be related with the upper limbs strength effect, once strength levels increase leads to sportive technic improvement.

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Acute effects of a shoulder rotators strength training session in young swimmers

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INTRODUCTION

Competitive swimming usually carries large volumes of daily training, in which the propulsive force is obtained mainly by the upper limbs. Therefore, there may be an overload on the shoulder joint, which can promote muscle imbalances. Some studies showed that shoulder rotators injury prevention training programs are essential (Batalha et al., 2015), and the majority of them are performed before the swim practice. This study aims to analyse the acute effects of an injury prevention training session on shoulder rotators strength, endurance and muscle balance.

METHODS

A group of 23 young swimmers (13.43 ± 1.38 years old; 58.97 ± 7.75 Kg; 168.61 ± 7.91 cm of height) were evaluated. The peak torques (PT) of shoulder internal (IR) and external rotators (ER) were assessed before and after one session of a compensatory strength training program. The ER/IR ratios and the fatigue index (FI) were also assessed.

The measurements were obtained with concentric actions at 60°/s (3 reps) and at 180°/s (20 reps), using an isokinetic dynamometer (Biodex System 3 - Biodex Corp., Shirley, NY, USA). The T-Student test for paired samples was used to compare the results.

RESULTS

Despite a decrease in the ER and IR strength values after the conducted training, there were no significant differences between pre and post assessment, on both shoulders at 60°/s. Likewise there were no statistical differences in the ER/IR ratios.

At the angular speed of 180°/s in the dominant shoulder, the compensatory strength training session does not induce any significant acute effect in the same variables ER-PT ($p=0.264$), IR-PT ($p=0.138$) and ER/IR ratios ($p=0.750$). Also for the ER-FI and IR-FI, statistical differences weren't observed ($p=0.910$ and $p=0.102$ respectively). Regarding the non-dominant shoulder, at the same angular velocity (180°/s), results were