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COMPARISON OF STATIC BALANCE FOR COLLEGE SWIMMERS AND JUDOKAS PRE AND POST-COMPETITION

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SUMMARY

The aim of this study was to compare the static balance of swimmers and judokas from colleges before and after competitions. In order to evaluate the static balance the volunteers went through the task of remaining in orthostatic position on a force platform during 30 seconds with their eyes open. Meaningful differences were found between modalities only in post competition conditions for all analyzed variants. Statistical differences were also found between conditions before and after competition for judokas in anteroposterior amplitude. The results presented by the volunteers seem to reveal that recuperating balance after competitions may be an important factor to be developed in judokas training.

INTRODUCTION

In order to improve athletes' performances in individual sports such as Judo and Swimming balance is one of the many factors are considered to be important. For both sports athletes may be required to compete several times in the same day consequently demanding the maintenance of appropriate physical training before and after competitions.

Several studies were carried out in order to evaluate postural balance by using stabilometry through the variables presented by COP in different situations and groups inside a sports context. [1,2,3].

It is known that the sport practice of judo demands both static and dynamic postural balance and are essential to a good strike attack and defense, which is the main feature for such modality[4]. On the other hand, swimming demands balance since the very start once the rule requires total immobility at starting point [5].

This study aimed to compare static balance for college swimmers and judocas before and after competitions.

METHODS

Seventeen college swimmers both male and female about $21,8 \pm 1,0$ years old and with IMC de $21,6 \pm 0,6$ kg/m² and thirteen male judokas, about $21,1 \pm 0,6$ years old and IMC $27,7 \pm 1,2$ kg/m² were part of the sample. In order to evaluate static balance the volunteers went through the task

of remaining in orthostatic position on a force platform (EMGSystem) during 30 seconds with their eyes on a fixed point located at 1.5m distant and regulated at eye level. Both tests were collected at UEM (Maringá State University), where the judokas took part in an internal championship and the swimmers were evaluated during qualifying time trails. Data information regarding the behavior of the Center of Pressure (COP) was collected from the platform data: mean displacement amplitude, anteroposterior, medial-lateral position and the ellipse area. For statistical analysis the Shapiro Wilk, Wilcoxon and "U" by Mann-Whitney tests were applied.

RESULTS AND DISCUSSION

The comparative analysis between swimmers and judokas is pointed in table 1.

Meaningful differences were found between modalities only in post competition circumstances for all analyzed variables. Judokas presented higher averages than swimmers in post competition conditions for all variables.

Statistical differences were also found between conditions before and after competition for judokas in the COP anteroposterior amplitude.

For the judokas the post competition values were higher than the ones presented at pre-competition stages.

CONCLUSIONS

The results presented by the volunteers seem to reveal that recuperating balance after competitions may be an important factor to be developed in judokas training.

We understand that such behaviors have to be enlarged both for samples and individual or group sports amount.

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Table 01- Average and Interquartile Interval of representative balance variables for college athletes regarding modality (Judo and Swimming).

Variables	Judo (n=13)	Swimming (n=17)	p
Anteroposterior amplitude pre (cm)	2.17 (0.69)**	2.16 (0.77)	0.98
Medio lateral amplitude pre (cm)	1.51 (0.94)	1.17 (0,58)	0.13
Displacement displacement area pre (cm ²)	1.66 (2.58)	1.98 (1,55)	0.79
Anteroposterior amplitude post (cm)	2.44 (1.49)**	2.06 (0.64)	0.01*
Mediolateral amplitude post (cm)	2.25 (1.57)	1.30 (0.33)	0.01*
Displacement area post (cm ²)	3.14 (4.43)	2.01 (0.76)	0.01*

* "U" de Mann-Whitney ($p \leq 0.05$); ** Wilcoxon ($p \leq 0.05$)