Introduction
The first pointe position of the classical ballet consists in maintenance of standing with an extremely reduced base of support. Hence, it is necessary to understand the modifications on postural control when the subject is submitted to different situations of standing as can be observed on dance. Based on it, the purpose of this study was to compare posture and body balance between the first pointe position of the classical ballet and the standing position.

Methods
Four female classical ballet dancers were tested (mean age: 21.6 ± 1.29 years; height: 1.63 ± 0.05 m; weight: 53.25 ± 4.79 Kg). A force plate (BERTEC) and a cinematography system (VICON) were used for assessment the posture and body balance alterations in two different conditions: the standing position (PN) and the first pointe position of the classical ballet (PP). The sampling rate was 60 Hz for both systems. The data analysis was made in MATLAB (Math Works). In both situations the subjects were asked to maintain the feet together, eyes open, and the shoulders in abduction (± 30°), each trial lasting 20 s. The relative angular variations for pelvis, hip, knee, and ankle were calculated on three planes (sagittal, frontal and transverse) and their differences for each joint compared between PP and PN. On the trials, the mean velocity (MV), the mean frequency (MF) and the elliptical area (EA) of the displacement of the center of pressure on the lateral (x) and anterior-posterior (y) directions were calculated. The MF of the power spectrum and EA were estimated through Fast Fourier Transform and Principal Component Analysis (Oliveira et al., 1996), respectively. The non-parametric Wilcoxon signed-ranks test was used to compare the two situations.

Results & Discussion
The results showed significant difference (p<0.05) in the anterior-posterior velocity in PP compared to PN (figure 1), that indicates variation in accordance with a great variation of support base in this plane. However, the medial-lateral MV, MF and EA did not present significant statistical difference between the both conditions. With regard to posture was observed an increasing plantar flexion (± 70°) and a small tendency to hip flexion and knee extension caused by a re-alignment of the line of gravity with body segments in PP (figure 2). In spite of a small subject group, the results can be interpreted as a good balance control mechanism in dancers, compatible with other studies in the specialized literature (Golomer et al., 1999; Trepman et al., 1994), and that an increased plantar flexion points out an efficient maneuver to attain a better adjust of the postural balance.

![Figure 1 - Mean velocity of displacement of the center of pressure.](image-url)
Figure 2 - Angular variation of the lower extremity joints on the sagittal plane.

References
