This study was conducted to assess whether female patients with EDS-HT exhibit a symmetrical pattern at the level of (1) static foot posture and (2) dynamic ankle flexibility.

Subjects:
Twenty-three female EDS-HT patients (age: 44.3±12.3; Beighton Scale 6.3±1.9) and 23 age matched healthy controls (age: 44.7±12.3; Beighton Scale 2.8±1.8) were recruited.

Materials:
- The ‘Foot Posture Index 6’ (FPI-6) was conducted regarding foot alignment. This test contains 6 items which are scored from 0 (neutral) to -2 (supination) and to +2 (pronation). A sum score will be reported.
- The ‘Lunge Test’ was carried out for determining ankle dorsiflexion range of motion in a weight-bearing position.

For both tests, mean side-to-side differences (expressing symmetry) between both feet are expressed as the ‘foot symmetry index’ (%FSI).

RESULTS

(1) Comparing actual observed FPI-6 scores for the left and right foot in the EDS-HT group, a MEAN(SD) of 3.83(±3.75) resp. 4.07(±3.05), was recorded. This was not significantly different from the control FPI-6 scores 2.93(±2.06) resp. 2.98(±2.07). As the observed results are situated between 0 and 5 we can conclude that the feet are relatively ‘neutral’, not having a tendency towards pronated position nor supinated position. The calculated %FSI for the mean FPI-6 was 94% for the EDS-HT group compared to 98% for the control indicating a slightly larger left-right variation for the EDS-HT group.

(2) The calculated %FSI for the Lunge test reported a 107% resp. 99% indicating a more asymmetric dynamic outcome for the EDS-HT group compared to the control group.

The observed Lunge test data showed a significant different mean angle within the EDS-HT group for the left and right ankle joint of 47.8°(±9.89°) resp. 44.79°(±7.67°), (p=0.00) . For the control group no clear significant differences were demonstrated (47.93°(±7.41°) resp. 48.02°(±7.86°).

CONCLUSION

Between-group analysis showed no significant differences (for static posture and dynamic ankle flexibility) despite their hypermobility background. Female patients with EDS-HT exhibit symmetrical static foot alignment. For dynamic ankle range of motion a significant asymmetry was observed for the EDS-HT group. As within the dynamic situation a significant asymmetry was observed, further research on kinematics and kinetics for this population should focus on both, left and right limb.