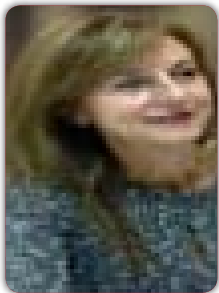


5<sup>th</sup> International Conference and Expo on

# Novel Physiotherapies

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### Comparison of the results of the chijin index and the ISTEP tensometric platform

**Introduction:** There are scarce publications on the study of the feet in health subjects and the lack of such data in children. Changes in the foot cause dysfunctions in the lower limbs, the pelvis and the spine, which necessitates their timely examination as early as childhood.

**Purpose:** The purpose of this study was to examination of the foot of children in primary school classes by putting into practice a tensometric platform and comparing the results with the data from Chijin's method.

**Participants:** In the period of May-October 2017, 104 children from the primary classes in secondary school at the average age of 8.66 years were examined.

**Methods:** The Chijin's index was measured in cm and calculated in four degrees: normal foot, tendency to flatfoot, flatfoot, and deep flatfoot. The tensometric ISTEP 5000 (USA) platform was calibrated to the anthropometric data for the current children's age and showed a 3D image of the child's feet and provided results for the height of the arch in three levels: low arch, middle arch and high arch.

**Results:** A gamma coefficient of the ordinal correlation was used to process the data. Results demonstrated statistically significant dependency ( $\alpha < 0.05$ ,  $p = 0.000$ ) between two methods with value -0.615 on the left foot and value -0.775 on the right foot.

**Conclusions:** The results showed a statistically significant correlation between the two methods. On the one hand, this confirmed that the Chinjin index was indicative of the presence of a flat foot, as well as the platform for the establishment of a low arch in children. On the other hand, the two methods have different specificities, as the tensometric platform provides information on the height of the arch with the simultaneous loading of the two lower limbs.

#### Recent publications

1. Elmoatasem E M and Eid M A (2016) Assessment of the Medial Longitudinal Arch in children with Flexible Pes Planus by Plantar Pressure Mapping. *Acta Orthopaedica Belgica* 82(4):737-744.
2. Vasilii M (2015) Diagnostics of the properties of the foot of students of the 8th grades of the MAOUL Institute of Irkutsk. Irkutsk' method of plantography on Streeter, available at <http://xn--d1alpbmmk.xn--p1ai/issledovanie-stop-y-i-osobennosti-eyo-funkcii-nauchnaya-rabota> (accessed at 23 November 2017).
3. Petkov S et al (2016) Practical exercises for sports medicine, NSA press, Sofia.
4. Prokopiev N et al (2016) Sport and flat feet. *Young scientist* 12:525-529 <https://moluch.ru/archive/116/31382/>.
5. Roman A (2008) Methods for determining flat foot. *Sports in school*, First September Publishing House 13(439)2008. <http://bmsi.ru/doc/14306a98-2836-4f32-b8de-b0c21312b1cb/html>.

#### Biography

Rumiana Tasheva is Associate professor of Physical Therapy at the National Sports Academy (NSA). The Chairperson of the Bulgarian Organization for Sports Physiotherapy, which she founded in 2000. The core group member and a researcher in the European Sports Physiotherapy For All project. PhD thesis with the subject "Physiotherapy after Arthroscopic Reconstruction of the Anterior Cruciate Ligament". Educated in 23 courses with national and international lecturers. Clinical experience in orthopedic, traumatology and neurological diseases since 33 years. During the period 1984-1993 the regional coordinator for treatment and prevention of spinal, chest and foot deformities. Over 40 publications in the field of physiotherapy.

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