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Lower Limb Symmetry Index in Cavus and Normal Feet by Means of a Baropodometric Platform: A Case–Control Study

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ABSTRACT

High-arched feet affect approximately 10%–15% of the general population. Although the relationship between plantar pressure and bilateral symmetry is well studied, there is limited evidence regarding the use of Symmetry Index and pressure platforms. The objective of the study is to compare dynamic foot pressures and Symmetry Index during gait between subjects with Pes Cavus and subjects with normal feet. The analysis of asymmetric pressure patterns could benefit from studies that compare dynamic foot pressures and Symmetry Index values in subjects with high-arched feet and normal feet. This analysis can promote better clinical understanding of gait alterations and help solve biomechanical problems that may lead to pathologies, as well as prevent and treat them. A descriptive case–control study was developed from October to December 2024 with 82 participants, 41 with Pes Cavus and 41 normal feet and 71 females of 25.52 ± 5.99 years through a consecutive nonrandom technique. For this study, a baropodometry platform (Neo-Plate, Herbitas) was used, which acquired dynamic gait with a 2-step protocol. The inclusion criteria regarding the selection of subjects were age 18–65 years; if both cavus feet, Navicular Drop Test (NDT) < 9 mm; neutral feet and no lower limb problem or surgery. Regarding SI use, the PC demonstrated to have large asymmetries compared to the control group. Left anterior pressure was lower ($44.93\% \pm 4.59\%$ vs. $48.60\% \pm 3.43\%$, $p = 0.014$), left posterior pressure was higher ($55.07\% \pm 4.58\%$ vs. $51.40\% \pm 3.43\%$, $p = 0.013$) and the left Initial Contact Phase (ICP) was prolonged (123.34 ± 51.75 ms vs. 91.30 ± 31.86 ms, $p = 0.036$); right medial pressure was higher ($58.18\% \pm 4.08\%$ vs. $53.77\% \pm 4.79\%$, $p = 0.034$). SI measurements were greater in normal foot group than in the PC group with SI $94.15\% \pm 5.00\%$ versus $93.75\% \pm 4.59\%$, $p = 0.001$, respectively; ICP and lateral SI were both $p = 0.001$. Findings confirmed that subjects with cavus feet tend to present greater alterations in bilateral symmetry, specifically posteromedial pressure movements and altered gait phases, which are indicative of more probability of future injuries. For this reason, pressure platforms are excellent tools for understanding, analysing and therefore applying the correct treatment according to the SI.

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Key Points

- The study demonstrates that individuals with Pes Cavus (high-arched feet) exhibit significantly higher asymmetry in plantar pressure distribution compared to those with normal feet.
- Research findings show that the Pes Cavus group has specific pressure imbalances, characterized by increased posterior pressure in the left foot and increased medial pressure in the right foot.
- The Symmetry Index (SI) revealed statistically significant differences between the groups, particularly regarding the duration of the initial contact and forefoot contact phases of gait.
- The analysis confirms that baropodometric platforms are essential clinical tools for identifying gait asymmetries that may lead to future injuries or biomechanical pathologies.

1 | Introduction

Pes cavus (PS), often referred to as high-arched foot, is a musculoskeletal deformity that is estimated to affect between 10% and 15% of the population [1, 2]. This pathology presents an abnormally high medial longitudinal arch [2], commonly associated with joint stiffness, reduced plantar contact areas, lack of *windlass mechanism* and poor shock absorption in both static and dynamic situations [3]. Consequently, instability, plantar pain and skin changes are common in the areas affected by ground reaction forces [4, 5].

Moreover, having a cavus foot not only affects foot position, but also the ascending kinetic chain too. Various investigations demonstrate how the anatomical structure of the foot predisposes upper joints to stress and wear [6]. It is common to see feet with a rigid varus or supinated positioning developing lateral ankle instability. These characteristics create an ascendant force through the kinetic chain; it is observed to generate knee joint laxity and higher pressure in the medial joint compartment. This leads to joint wear, pain, osteoarthritis, tendinitis and other lower limb problems [7, 8].

Therefore, the foot must be able to adapt to different kinds of terrain, transitioning from mobile to rigid and from soft to hard surfaces without difficulties [3]. To assess biomechanical health, the Symmetry Index (SI) has become a perfect clinical marker [9]. It allows for the quantification of the percentage difference between right and left limbs. The human body cannot be completely symmetrical; however, it is said that if there is more than 10% asymmetry, there are higher chances of developing pathologies due to the varus position [10]. Moreover, if there is a noticeable asymmetry while standing, it would be considered as a warning sign or *red flag*, indicating that the body is trying to compensate for the load distribution or a neuromuscular problem [11, 12]. It has been shown that when there are large differences in both limbs supporting the same weight, the tissue begins to fatigue and become injured [11, 13]. In patients with PC, SI measurement is particularly useful, as it can help clinicians make accurate diagnoses and monitor progress, as well as

determine whether the pathology is causing unilateral or bilateral tissue damage [14].

In podiatry clinics, the most used tool for evaluating SI is baropodometry. This objective, noninvasive and modern system uses sensors to evaluate plantar pressure while standing or walking. It allows for the visualisation of load distribution and reaction forces, relating them to time and weight [15, 16]. Furthermore, the pressure platform is a reliable and validated method in both clinical and research settings [17]. Ultimately, understanding how the foot reacts and compensates has facilitated the creation and adaptation of personalised treatments, such as rebalancing orthotics or custom-made footwear, as well as the observation of improvements during follow-ups [18].

Although how foot posture affects body biomechanics has been well documented, there is still no comprehensive database about the Lower Limb SI and its relationship with cavus foot compared to healthy foot during gait while using baropodometry. Therefore, the main objective of the present investigation is to analyse and compare dynamic values of bipedal baropodometry, plantar pressure distribution and SI between patients with PS and normal feet during a 2-step protocol. Through these results, we aim to provide a broader context and clearer literature for predicting musculoskeletal problems and offering more effective treatments. The suggested hypothesis was that adults with both cavus feet would show greater asymmetries in plantar pressure distribution and gait measurements compared to adults with both feet normal in the SI.

2 | Material and Methods

2.1 | Study Design and Participants

The descriptive observational case-control study adapted the protocol from Casado-Hernandez et al. [19] research and recruited subjects from a descriptive observational case-control investigation carried out in the University of A Coruña, Spain between the months of October and December of 2024. Using a consecutive nonprobability sampling, we recruited 82 subjects (11 men and 71 women) with a mean age of 25.51 years old, ranging from 24 to 39 years old [19].

The inclusion criteria in the normal feet group were (1) Age between 18 and 65 years old, (2) To have both neutral feet, (3) To be healthy adults without family history of relevant health conditions and no lower limb surgery or personal history of trauma, (4) To comprehend and sign the informed consent, as well as be able to communicate with the researchers. The exclusion criteria for the neutral foot group were (1) Not being between 18 and 65 years of age, (2) Having any pain in lower limbs or neurological disease, (3) Using medications or being in treatment for a lower limb problem, (4) Being pregnant or breastfeeding, (5) Refusing to sign the informed consent, not being able to communicate with the researchers or not understanding the steps of the investigation.

The inclusion criteria in the PS group were (1) Age between 18 and 65 years old, (2) Not to have any relevant health disturbance,

personal history of trauma, family history of relevant health diseases or surgery in the lower limb, (3) To have signed the informed consent, (4) To have bilateral cavus foot, (5) To be able to understand the researchers and communicate with them and (6) To have less than 9 mm in the *Navicular Drop* test (NDT). The exclusion criteria for the group of cases were (1) To be younger than 18 or older than 65 years old, (2) To take medication, (3) To be pregnant or breastfeeding, (4) To have musculoskeletal trauma, history of surgery in the lower limb or neurological diseases, (5) Not having signed or understood the informed consent, (6) To have more than 9 mm of measurement in the NDT.

2.2 | Experimental Procedure

An experienced podiatrist with over 10 years in the field of biomechanics and gait analysis carried out the investigation. All participants followed rules according to the group to which they were assigned. It was suggested to the subjects to bring light, comfortable clothes.

First, the researcher interviewed each participant asking for personal characteristics, family background and health status. Second, so that the *Quetelet's equation* could be completed and written down, every subject had to take off their socks and shoes. Thanks to this equation it could be measured the Body Mass Index (BMI) = weight/height² [20, 21]. Third, the NDT/NDT was used to assess the foot's mobility. The test consisted of measuring the height difference of the navicular tuberosity from the relaxed and seated position with both feet at 90° to the floor, to standing at the same time with both legs perpendicular to the floor. To do this, the scaphoid process was palpated, positioned and marked. The difference in height was then measured in millimetres with a ruler, both in the seated and standing positions. It was considered indicative of PS if there were values under 9 mm [22]. The procedure was repeated three times, and the mean number was written down. The NDT interclass correlation index is 0.71 and the intraclass correlation index is 0.93 [23].

Gait information was captured using the validated Herbitas Neo-Plate platform [15, 24]. This baropodometry tool has 1600 resistive sensors distributed in an analysis area of 400 × 400 mm, 565 × 612 × 22 mm dimensions, and 100–150 Hz.

Participants were asked to walk barefoot, selecting their own speed, as long as they had complete total contact of the foot on the platform [17]. A measurement was only considered valid if the patient was able to perform a whole-foot landing, had consistent speed and if it was completed correctly the gait cycle [25, 26]. We applied the 2-step method, in which every subject landed with their second footstep onto the platform, having an average of six steps per foot.

To correctly compare the load between the right lower limb and the left lower limb in each subject, it was necessary to apply the $SI = \left(\frac{X_r - X_i}{0.5|X_r| + |X_i|} \right) \times 100$ where X_r corresponds to the right lower limb and X_i to the left lower limb [27]. Numerous studies support

this equation for calculating the SI as it evaluates the percentage of variations between kinetic and kinematic measurements in the lower limbs [9–11].

Specifically, the representation of the dynamic pressures was created using the already described Neo-Plate platform and software. The feet were divided into two sectors twice to analyse the findings: (1) Anterior zone, from the forefoot to the midtarsal joint; versus (2) posterior zone, from the midtarsal joint to the hindfoot and (3) medial zone, from the medial space of the second toe and the medial half of the heel to the internal medial arch; versus (4) lateral zone, from the lateral space of the second toe and lateral half of the heel to the external lateral arch of the foot [19].

2.3 | Sample Size Calculation

Sample size was determined with the Epidat Software 4.2 version (Consellería de Sanidade, Xunta de Galicia, Spain; OPS-OMS; Universidad CES, Colombia). To carry out the calculation, the significant differences in primary baropodometric variables between the two independent groups were statistically detected. It was assumed to have an 80% statistical power ($\beta = 0.20$), a 95% confidence level ($\alpha = 0.05$), and a two-tailed test, which gave a minimum of 38 subjects per group. The final sample size was 41 subjects per group ($n = 82$) to compensate for possible measurement errors or loss of data.

2.4 | Data Processing and Statistical Analysis

IBM SPSS Statistics Software 19.0 version was used to perform the statistical analysis (IBM Corp., Armonk, New York, USA). Participants' descriptive analysis means and standard deviations (SD) expressed age, height, weight and pressures variables with 95% confidence intervals. Frequencies and percentages (%) were used for categorical variables. *Shapiro–Wilk* test was used for assessing the normality of data distribution. Nonparametric methods were applied to baropodometric variables and SI as they showed nonnormal distributions ($p < 0.05$). To compare the differences between the normal feet group and the cavus feet group, the *Mann–Whitney U* test was used. Finally, for the categorical sociodemographic data, *Fisher's exact* test was conducted.

It was considered as statistically significant if $p < 0.05$.

2.5 | Ethical and Legal Considerations

We adhered to STROBE guidelines, as it was an observational study [28]. It was approved by the Bioethics Committee of the University of A Coruña in October 2024, ID:2024-033 in line with the Declaration of Helsinki 2025 ('World Medical Association Declaration of Helsinki: Ethical Principles for Medical Research Involving Human Participants', 2025) for personal data protection and ethical conduct for research. Written informed consent was mandatory before starting the test.

3 | Results

3.1 | Sociodemographic and Descriptive Data

Eighty-two subjects were recruited for this research, of which 41 were part of the Case Group and 41 were part of the Control Group. The average age was 25.51 ± 5.99 years (SD). Weight and BMI were the only measurements that presented statistically significant differences, or $p < 0.001$, with $(63.12 \pm 11.69 \text{ kg})$ and $(22.82 \pm 3.43 \text{ kg/m}^2)$ respectively (Table 1).

3.2 | Primary Outcome Measures

Table 2 shows the main results of the SI analysis in subjects with cavus foot (case group), with normal foot (control group), and the total sample. In the left foot analysis, there were statistically significant differences when comparing to the right foot. It had lower anterior load distribution ($44.93\% \pm 4.59\%$ vs. 48.60 ± 3.43 ; $p = 0.014$), higher posterior load ($55.07\% \pm 4.58\%$ vs. $51.40\% \pm 3.43\%$; $p = 0.013$) and longer initial contact phase or ICP ($123.34 \pm 51.75 \text{ ms}$ vs. $91.30 \pm 31.86 \text{ ms}$; $p = 0.036$). There were no other significant differences observed in the lateral or medial load distribution for the left foot. In relation to the right foot analysis, the medial load was significantly higher for the case group ($58.18\% \pm 4.08\%$ vs. $53.77\% \pm 4.79\%$; $p = 0.034$), contrary to the lateral load which was lower ($41.82\% \pm 4.08\%$ vs. $46.23\% \pm 4.79\%$; $p = 0.034$). Dynamic measurements showed great statistical significance with $p \leq 0.002$ in the Flatfoot phase (FFP), Forefoot contact phase (FFCP) and ICP between groups. Finally, regarding the SI analysis, all measurements demonstrated statistically significant differences between PC group and Control group. For instance, Case group presented $93.75\% \pm 4.59\%$ versus $94.15\% \pm 5.00\%$ ($p = 0.004$) in the control group. Posterior SI ($p = 0.018$), medial SI ($p = 0.037$), lateral SI ($p < 0.001$), FFP SI ($p = 0.008$), FFCP SI ($p = 0.005$) and ICP SI ($p < 0.001$) also displayed significant differences.

4 | Discussion

This study collected and quantified lower limb SI asymmetries using a validated baropodometry tool (Neo-Plate, Herbitas,

Spain) comparing participants with cavus feet and normal feet [17, 19, 24]. Regarding the findings, the PC group showed lower left anterior ground reactive forces ($44.93\% \pm 4.59\%$ vs. $48.60\% \pm 3.43\%$, $p = 0.014$), greater left posterior load ($55.07\% \pm 4.58\%$ vs. $51.40\% \pm 3.43\%$, $p = 0.013$), larger left ICP ($123.34 \pm 51.75 \text{ ms}$ vs. $91.30 \pm 31.86 \text{ ms}$, $p = 0.036$), more right medial pressure ($58.18\% \pm 4.08\%$ vs. $53.77\% \pm 4.79\%$, $p = 0.034$) and SI contrarieties (93.75 ± 4.59 vs. 94.15 ± 5.00 , $p = 0.001$). As highlighted above, PC showed high asymmetries, specifically in medial and posterior loading, as well as in gait stages which are related to a higher risk of future injuries; high ICP, for example, is correlated with poor impact absorption [11, 13].

It is well described in literature that cavus feet tend to exhibit misalignments that provoke localised pain areas, such as metatarsalgias or plantar heel pain [29]. Given that PC are usually rigid structures that do not adapt to the ground, the shock absorption capacity is, in most cases, lower than in normal feet. Moreover, as PC have less support area, the places that are in contact with the ground tend to be at the hindfoot, lateral area or forefoot, predisposing to ankle instability, tendon and ligament pathology or even muscle, bone or skin problems [14]. In the present investigation, it was demonstrated that PC show greater SI alterations versus neutral feet, having left posterior area and right medial area higher pressure than the control group, meaning that those areas have more possibilities of suffering from having a varus position. Concerning BMI, although it was found to be lower in participants with cavus feet ($21.56 \pm 3.36 \text{ kg/m}^2$ vs. 24.08 ± 3.04 , $p = 0.001$), there were still asymmetries displayed, in contrast to the normal feet that could develop a more symmetrical loading while having more weight. This can be explained because normal feet have better anatomical compensatory solutions than the rigid supinated cavus feet, where, for example, the *windlass* test is compromised [3].

Furthermore, our findings suggested that all SI measurements differed from PC to normal feet ($p < 0.01$), showing more midtarsal joint stiffness with slower heel lift and worse gait cycle dynamics, leading to a higher displacement of the centre of pressure and, consequently, more fatigue and risk of pathologies [3, 4].

PC has been noted to present 28% less contact area across the entire foot and greater pressure in the forefoot, compared

TABLE 1 | Sociodemographic characteristics of total sample, normal and cavus foot.

Characteristics	Total sample ($n = 82$) Mean $\pm$ SD (range)	Case group ($n = 41$) Mean $\pm$ SD (range)	Control group ($n = 41$) Mean $\pm$ SD (range)	<i>p</i>
Age (years)	25.51 ± 5.99 (20–46)	26.07 ± 7.16 (20–46)	24.95 ± 4.55 (21–39)	0.940 ^a
Weight (kg)	63.12 ± 11.69 (45–92)	59.76 ± 12.25 (45–92)	66.49 ± 10.18 (53–89)	<0.001 ^a
Height (cm)	166.50 ± 0.87 (150–192)	166.93 ± 0.93 (150–192)	166.07 ± 0.83 (150–185)	0.780 ^a
BMI (kg/m^2)	22.82 ± 3.43 (16.65–32.44)	21.56 ± 3.36 (16.65–30.74)	24.08 ± 3.04 (19.00–32.44)	<0.001 ^a
Sex, male/female (%)	11/71 (13.4/86.6)	7/34 (17.1/82.9)	4/37 (9.8/90.2)	0.519 ^b
Foot size (cm)	38.97 ± 2.50 (35–47.5)	38.82 ± 2.50 (35–47.5)	39.12 ± 2.52 (36–46)	0.414 ^a

Note: The bold numbers indicate variables where a statistically significant difference ($p < 0.05$) was found between the two study groups.

Abbreviations: %, percentage; Cm, centimetre; Kg, kilogram; N, number; SD, standard deviation.

^aMann–Whitney U test was used.

^bFisher exact test was used. In all the analyses, $p < 0.05$ (with a 95% confidence interval) was considered statistically significant.

TABLE 2 | Symmetry index analysis measurements of total sample with or without bilateral cavus foot.

Characteristics	Total sample (<i>n</i> = 82) Mean ± SD (range)	Case group (<i>n</i> = 41) Mean ± SD (range)	Control group (<i>n</i> = 41) Mean ± SD (range)	<i>p</i>
Anterior left foot load (%)	46.76 ± 6.37 (35.50–54.30)	44.93 ± 4.59 (35.50–54.30)	48.60 ± 3.43 (41.80–53.70)	0.014^a
Posterior left foot load (%)	53.23 ± 5.73 (45.70–64.50)	55.07 ± 4.58 (45.70–64.50)	51.40 ± 3.43 (46.30–58.20)	0.013^a
Medial left foot load (%)	46.79 ± 6.20 (36.70–59.50)	48.11 ± 4.36 (41.10–59.50)	45.47 ± 4.13 (36.70–52.80)	> 0.05 ^a
Lateral left foot load (%)	53.22 ± 6.21 (40.50–63.30)	51.89 ± 4.36 (40.50–58.90)	54.55 ± 4.14 (36.70–52.80)	> 0.05 ^a
Left foot FFP (ms)	266.05 ± 39.60 (162.70–442.00)	259.94 ± 51.02 (178.80–409.00)	272.16 ± 71.26 (162.70–442.00)	0.145 ^a
Left foot FFCP (ms)	358.56 ± 59.65 (129.80–605.60)	324.53 ± 99.07 (129.80–557.00)	392.60 ± 79.33 (259.20–605.60)	0.078 ^a
Left foot ICP (ms)	107.32 ± 41.65 (21.00–291.80)	123.34 ± 51.75 (21.00–291.00)	91.30 ± 31.86 (43.70–149.40)	0.036^a
Anterior right foot load (%)	46.29 ± 5.48 (34.00–55.90)	45.07 ± 4.64 (34.00–55.90)	47.50 ± 4.17 (40.30–54.90)	0.125 ^a
Posterior right foot load (%)	53.70 ± 5.48 (44.10–66.00)	54.91 ± 4.67 (44.10–66.00)	52.50 ± 4.17 (45.10–59.70)	0.110 ^a
Medial right foot load (%)	55.97 ± 5.91 (49.60–66.30)	58.18 ± 4.08 (49.60–66.30)	53.77 ± 4.79 (40.60–61.80)	0.034^a
Lateral right foot load (%)	44.03 ± 5.91 (33.70–50.40)	41.82 ± 4.08 (33.70–50.40)	46.23 ± 4.79 (38.20–59.40)	0.034^a
Right foot FFP (ms)	271.66 ± 55.59 (152.50–557.80)	276.27 ± 89.68 (152.50–557.80)	267.06 ± 79.63 (165.80–567.50)	0.001^a
Right foot FFCP (ms)	353.55 ± 62.32 (169.00–606.40)	328.97 ± 82.58 (169.00–606.40)	378.14 ± 113.72 (34.15–544.00)	0.001^a
Right foot ICP (ms)	105.64 ± 30.56 (13.00–258.00)	120.92 ± 49.38 (13.00–258.00)	90.37 ± 31.05 (42.80–137.60)	0.002^a
Anterior SI load (%)	93.95 ± 4.60 (80.70–99.80)	93.75 ± 4.59 (83.00–99.80)	94.15 ± 5.00 (80.70–99.10)	0.004^a
Posterior SI load (%)	94.69 ± 4.68 (83.40–99.80)	94.51 ± 4.63 (83.40–99.80)	94.87 ± 4.63 (84.60–99.80)	0.018^a
Medial SI load (%)	84.68 ± 5.99 (71.50–96.70)	84.68 ± 5.86 (71.50–96.70)	84.68 ± 6.59 (72.40–96.60)	0.037^a
Lateral SI load (%)	84.75 ± 5.97 (71.30–96.80)	84.75 ± 5.86 (71.30–96.80)	84.75 ± 6.15 (72.60–96.70)	< 0.001^a
SI FFP (%)	88.87 ± 8.46 (73.50–99.90)	88.87 ± 8.46 (73.50–99.90)	88.87 ± 8.46 (73.50–99.90)	0.008^a
SI FFCP (%)	91.33 ± 7.70 (73.40–99.30)	91.33 ± 7.70 (73.40–99.30)	91.33 ± 7.70 (73.40–99.30)	0.005^a
SI ICP (%)	85.75 ± 15.03 (51.90–100.00)	85.75 ± 15.03 (51.90–100.00)	85.75 ± 15.03 (51.90–100.00)	< 0.001^a

Note: The bold numbers indicate variables where a statistically significant difference ($p < 0.05$) was found between the two study groups.

Abbreviations: %, percentage; Cm, centimetre; FFCP, forefoot contact phase; FFP, flatfoot phase; ICP, initial contact phase; Ms., metres per second; N, number; SD, standard deviation.

^aMann–Whitney U test was used. In all the analyses, $p < 0.05$ (with a 95% confidence interval) was considered statistically significant.

to normal feet ($r=0.5$, $p<0.001$) ([29, 30]), which supports our findings regarding forefoot and internal cavus loads. Moreover, the posterior loading of the investigation is also confirmed, as it has been observed that this pressure surpasses the normal feet results (Goffar et al. 2013). Finally, Teyhen et al. correlated the gait pressure symmetry in cavus feet and their Foot Posture Index, furthering our conclusions done with a validated baropodometry [31]. It can be confirmed that Neo-Plate pressure platform not only is a cost-effective tool for diagnosing and analysing gait characteristics, but also for studying the SI [17].

Another good use for baropodometry is follow-ups. Given that SI can be observed with platforms, orthotics emerge as an excellent treatment for unstable and asymmetric gait. It is crucial to create a steady “ground” so that the ascending kinetic chain does not affect upper joints and bones. For instance, a stiff varus foot is likely to have more supinated forces while walking, closing the medial knee compartment and therefore degenerating into knee osteoarthritis that could be prevented or at least reduce the severity of the forces through insoles and proprioception exercises.

The present study had some limitations that should be described: being an observational, cross-sectional investigation, there was no broad randomisation; there was no electromyography performed to study the exact contribution of the muscles to the dynamic stages, nor kinematic analysis of the SI; walking speed and fatigue were assumed as natural, but were not studied for each participant; the sample was young with a mean age of 25.51 years, and was mainly female, being 71 out of 82 subjects women, which limited the findings and should be considered when reading the results.

Finally, it would be interesting to develop a prospective, longitudinal trial that covers our limitations. A 3D spatiotemporal analysis, treadmill walking or the use of electronic insoles would be recommended solutions, as well as observing the impact on quality of life or kinesiophobia. Finally, to better understand injury prevention and management, it would be advisable to collect a larger and more even sample.

5 | Conclusions

Subjects with both cavus feet showed symmetrical discrepancies in the SI along the anteroposterior bisector of the foot, and the lateromedial bisector, as well as in the ICP and FFP, if compared to adults with normal feet. These outcomes show the great utility of mixing the SI with the use of the pressure platform to detect abnormal gait patterns, allowing for a more reliable selection of treatment and follow-ups of cavus feet, and their proper management in clinical settings. It is therefore important to study the SI in patients with PS by using a baropodometry platform.

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Ethics Statement

The study was approved by the Research Ethics Committee of the University of A Coruña (2024-033).

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The dataset supporting the conclusions of this article is available in the daniellopez@udc.es in the Research, Health and Podiatry Group. Department of Health Sciences. Faculty of Nursing and Podiatry. Universidade da Coruña, Industrial Campus of Ferrol. Spain.

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