The Effect of Prolonged Standing and Prolonged Sitting on Plantar Arch

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I. INTRODUCTION

The foot is a complex anatomical structure that enables weight-bearing and movement. It comprises bones, joints, ligaments, muscles, and tendons and is divided into three regions: the forefoot, midfoot, and hindfoot. Structurally, the foot contains 28 bones, 33 joints, 112 ligaments, along with 13 extrinsic and 21 intrinsic muscles that collectively govern its function [1]. The foot plays a crucial role in supporting body weight, promoting stability, absorbing shock, transmitting ground reaction forces, and compensating for proximal malalignments [2]. The arches act as rigid levers during propulsion, bases of support, and shock absorbers [3].
The three main arches of the foot include the medial longitudinal arch, lateral longitudinal arch, and transverse arch [4]. To effectively perform its functions, the foot must balance both stability and mobility. Mobility, particularly during heel strike, allows the subtalar joint to pronate, aiding in shock absorption [5,6]. Pronation also facilitates tibial rotation and cushions the impact of movement [7]. Through eccentric control of the supinator muscles, subtalar pronation further assists in force absorption [8]. During this phase, the Chopart joint becomes unlocked, maintaining flexibility in the forefoot [9].
The plantar arch—composed of ligaments, tendons, and muscles—is fundamental to foot biomechanics, helping to distribute pressure, provide balance, and absorb impact during movement [10,11]. However, both prolonged standing and prolonged sitting can negatively affect plantar arch integrity. Extended standing increases mechanical load on the medial longitudinal arch, leading to fatigue, overpronation, and potential arch collapse, especially in individuals lacking muscular support or wearing unsupportive footwear [1,2]. This repeated stress may contribute to conditions such as plantar fasciitis and lower limb joint dysfunction [3]. Moreover, static standing may cause localized edema and impair venous return, further stressing foot structures [4].
Conversely, prolonged sitting, common in desk-bound professions and sedentary lifestyles, reduces neuromuscular activation, especially of intrinsic foot muscles responsible for maintaining arch height and alignment [5]. This inactivity can cause plantar fascia tightening, inflammation, and contribute to discomfort or stiffness in the arch or heel, particularly after long periods of inactivity [3,4]. Common symptoms include arch or heel pain [5], morning stiffness [6], worsening pain with activity [7], and burning or stabbing sensations in the foot [8].
Both extended sitting and standing lifestyles may influence foot arch health, albeit through different mechanisms—sitting through muscular inactivity and poor circulation, and standing through

mechanical overload [9,10]. Maintaining foot arch integrity requires a balance between activity and rest, proper footwear, and strengthening exercises [11].

Occupational settings such as manufacturing, retail, and healthcare often necessitate prolonged standing [1]. In contrast, prolonged sitting is prevalent in office environments. Despite their frequency, the relative biomechanical and physiological impacts of sitting versus standing on foot arch health remain underexplored [8]. Understanding these effects is essential for informing ergonomics, footwear design, physical rehabilitation, and workplace health policies [9].

This study aims to investigate the differential impacts of prolonged standing and sitting on the structural and functional characteristics of the foot arch [10]. While some literature addresses general musculoskeletal effects such as fatigue, venous insufficiency, or back pain, few studies focus on the direct influence of these static postures on arch morphology and function [11,12]. Current evidence suggests that both excessive weight-bearing and muscle inactivity may alter plantar pressure distribution, potentially leading to structural arch changes [13].

Since the foot is a key element in the body's kinetic chain, changes in its structure or function could lead to compensatory issues in the ankles, knees, hips, and spine [14]. The rise in sedentary behavior due to technological dependence and the persistent demands for standing in various service sectors underscore the urgency for targeted research in foot health [15]. Such research could contribute to improved ergonomic strategies, therapeutic interventions, and health education programs [17]. For instance, identifying the threshold duration at which standing begins to harm the arch could guide footwear design and shift scheduling [18]. Likewise, understanding how prolonged sitting affects intrinsic foot muscles may support incorporating foot-specific exercises into sedentary individuals' routines [19].

Therefore, this study aims to bridge the existing research gap by systematically analyzing how prolonged standing and sitting affect foot arch morphology and function. Using static and dynamic assessments of plantar pressure and muscle activity, the study will determine which posture has a greater influence on arch collapse or muscle weakening, and how these relate to reported pain or functional limitations

II. AIM OF THE STUDY

This study aims to figure out the effect of prolonged sitting and prolonged standing on the plantar arch.

III. OBJECTIVES

To evaluate and compare the effects of prolonged standing and prolonged sitting on the structural integrity and function of the plantar arch

IV. NEED OF THE STUDY

To assess the impact of prolonged standing and sitting on the plantar arch in order to inform preventive measures for foot-related disorders

V. HYOTHESIS

Null hypothesis (H_0):

- There may be no significant difference in plantar arches of prolonged standing and prolonged sitting
- There may be no correlation between working hours and plantar arch

Experimental hypothesis (H_1):

- There may be a significant difference in plantar arches of prolonged standing and prolonged sitting
- There may be a correlation between working hours and plantar arch

2. Thaulow et al. (2019) in their research “Comparative Effects of Standing and Sitting on Arch Dynamics” concluded that both prolonged standing and sitting cause changes in arch dynamics; standing leads to flattening, while sitting reduces foot muscle stability. [20]
3. Patel et al. (2016) conducted a study, “Prolonged Static Standing and Foot Biomechanics in Retail Workers,” and concluded that standing more than 4 hours per shift results in significant biomechanical changes to the foot, including arch fatigue. [21]
4. Lin et al. (2016) investigated the “Effect of Sitting-Induced Muscle Inactivity on Arch Stability” and concluded that prolonged sitting results in reduced intrinsic foot muscle tone, which compromises the stability and height of the plantar arch.[22]
5. Kim & Nussbaum (2015) in their study “Static Standing and Arch Flexibility in Industrial Workers” concluded that static standing negatively impacts arch flexibility and contributes to development of flatfoot in industrial workers. [23]
6. Saadah et al. (2014) researched the “Role of Supportive Footwear in Arch Pain Prevention” and concluded that supportive footwear and medial arch supports help reduce arch strain and pain caused by prolonged standing, thus protecting the foot structure. [24]
7. Chang et al. (2014) studied “The Effect of Sitting Duration on Foot Muscle Activity and Arch Stability”. They found that longer sitting periods reduce intrinsic foot muscles activation, leading to decreased plantar arch height over time. [25]
8. Menz et al. (2013) investigated the “Impact of Sedentary Lifestyle on Foot Arch Integrity” and found that sedentary lifestyle due to prolonged sitting reduces muscle activity, leading to underuse and weakening of the plantar arch support. [26]
9. Taspinar et al. (2013) conducted a comparative study on “Analysis of Sitting and Standing on Arch Function” and concluded that neither prolonged sitting nor standing is ideal; alternating postures are necessary to preserve plantar arch functionality. [27]
10. Ribeiro et al. (2011) investigated “Occupational Exposure to Standing and Plantar Arch Deformation” and concluded that occupational standing is associated with lower plantar arch height, increasing the risk of musculoskeletal issues in the foot. [28]
11. Chong et al. (2011) in their study “Dynamic Plantar Pressure Changes in Prolonged Standing Tasks” concluded that dynamic pressure mapping during prolonged standing shows progressive flattening of the medial longitudinal arch.[29]
12. Zammit et al. (2010) studied “Arch Type and Pain Response to Prolonged Standing” and

concluded that individuals with low arches experience more pain during prolonged standing compared to those with neutral arches. [30]

13. Mickle et al. (2010) investigated the "Effects of Sedentary Behavior on Foot Structure in Older Adults" and found that chronic sitting reduces arch height and foot strength, especially in aging populations. [31]
14. Redmond et al. (2009) conducted a study on the "Effect of Prolonged Standing on Foot Posture and Plantar Pressure" and concluded that prolonged standing increases pronation and results in flattening of the medial longitudinal arch, as measured through plantar pressure analysis. [32]
15. Chiu & Wang (2007) Foot Fatigue and Arch Changes in Standing Workers. Concluded that foot fatigue in standing workers results in arch collapse and pain, particularly among those who perform continuous standing tasks. [33]
16. Burns et al. (2005) studies "The Influence of Occupational Standing on Lower Limb Disorders" and found that prolonged occupational standing increases the risk of foot and lower limb disorders, including flattening of the plantar arch and plantar fasciitis. [34]
17. Riddle & Schappert (2004) investigated the "Prevalence of Foot Pain and its Association with Daily Postures and concluded that foot pain due to arch strain is highly prevalent among individuals with prolonged standing or sedentary lifestyles. [35]
18. Del Rossi et al. (2004) in their research "Foot Fatigue and Medial Arch Height During Extended Standing" concluded that medial arch height decreases significantly after 2+ hours of standing, primarily due to foot muscle fatigue. [36]
19. Basford et al. (2003) in their study "Postural Influences on Arch Height and Muscular Activation" found that active posture variation promotes better foot health, while static positions—either standing or sitting—cause plantar arch deterioration. [37]
20. Gefen et al (2002) in their research "Biomechanical Analysis of Plantar Fascia Stress During Standing" concluded that the increased mechanical load on the plantar fascia during prolonged standing can lead to weakening of the arch structure due to tissue stress.[38]
21. Rome et al. (2001) conducted a study on "Foot Posture and Injury Risk in Long-Term Standing Occupations" and concluded that poor foot posture, such as collapsed arches, increases injury risk in jobs requiring long periods of standing. [39]

VI. METHODOLOGY

- Study Design: Observational Study
- Study Type: Cross-sectional study
- Study Setting: Teerthanker Mahaveer University
- Study Population: Individuals engaged in occupations requiring prolonged standing or prolonged sitting
- Sample Size: 60

VII. INCLUSION CRITERIA

- Age: 24–40 years

- Both male and female participants
- Group A: Standing hours ≥ 6 hours
- Group B: Sitting hours ≥ 7 hours

VIII. EXCLUSION CRITERIA

- Existing foot deformity
- Pregnancy
- Age above 40 years
- History of surgery (spine or lower limb)
- Use of orthotic devices
- Structural abnormalities of the spine or lower limb
- Leg Length Discrepancy (LLD)

IX. INSTRUMENTATION

- Measuring tape
- Calculator

X. OUTCOME MEASURES

- Arch height index

XI. PROCEDURE

Participants were selected based on inclusion and exclusion criteria and divided into two groups:

- Group A: Individuals with prolonged sitting jobs
- Group B: Individuals with prolonged standing jobs Written informed consent was obtained from all participants.

Measurement protocol:

1. Participants removed shoes and socks.
2. They stood naturally with weight evenly distributed on both feet on a flat, non-slippery surface.
3. Truncated foot length was measured from the heel to the first metatarsophalangeal joint.
4. Dorsum height was measured at 50% of the foot length (midfoot region).
5. The Arch Height Index was calculated as the ratio of dorsum height to truncated foot length.

FIGURE 1: MEASURING FOOT ARCH

XII. STATISTICAL ANALYSIS

Analytical analysis was conducted with SPSS software version 20. Normality was evaluated by using the Shapiro-Wilk test. The Mann-Whitney U test was employed to differentiate between the Group A and Group B means. Spearman's correlation was employed to correlate working hours with the plantar arch.

A Significant level of 0.05 was used for data analysis.

This chapter presents the results of the study, detailing the statistical findings related to the Arch Height Index (AHI) among individuals with prolonged sitting and standing postures. It includes descriptive statistics, inferential analysis, and correlation outcomes to address the research objectives.

- DEMOGRAPHICS

	GROUP A (SITTING)	GROUP B (STANDING)
AGE	27.77	27.60
HEIGHT	173.30	172.93
WEIGHT	73.27	74.20
WORKING HOURS	6.9	5.90

TABLE 1: COMPARISON OF DEMOGRAPHICS BETWEEN GROUP A AND GROUP B

The above table values show that both groups were comparable in age, height, and weight, while the working hours reflect the primary differentiating factor between the two postural exposure groups.

- TEST FOR NORMALITY

Group		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
AHI_L	Sitting	0.217	30	0.001	0.862	30	0.001
	Standing	0.092	30	.200*	0.977	30	0.746

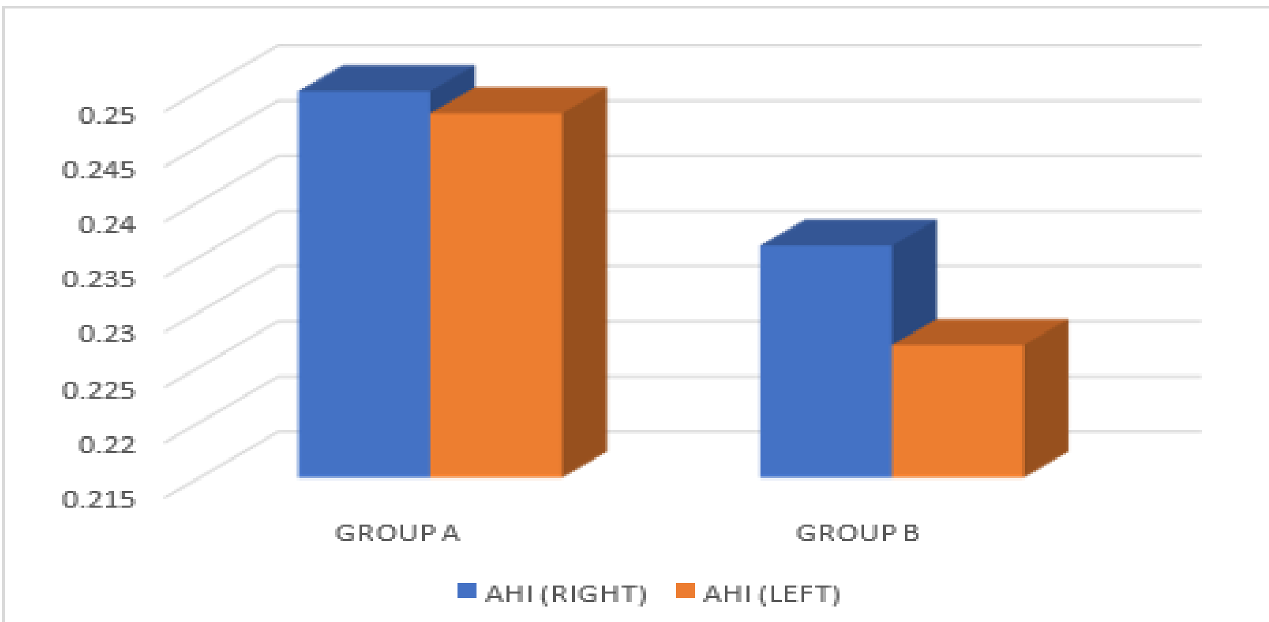
AHI_R	Sitting	0.228	30	0.000	0.841	30	0.000
	Standing	0.092	30	.200*	0.964	30	0.394
Working_hours	Sitting	0.232	30	0.000	0.837	30	0.000
	Standing	0.207	30	0.002	0.856	30	0.001

TABLE 2: TESTS FOR NORMALITY

- COMPARISON OF ARCH HEIGHT INDEX (AHI)

Outcome variables	Group A (MEAN ± SD)	Group B (MEAN ± SD)	p-value
AHI (RIGHT)	0.250 ± 0.027	0.236 ± 0.029	0.024
AHI (LEFT)	0.248 ± 0.028	0.227 ± 0.032	0.005

TABLE 3: COMPARISON OF AHI BETWEEN GROUP A AND GROUP B



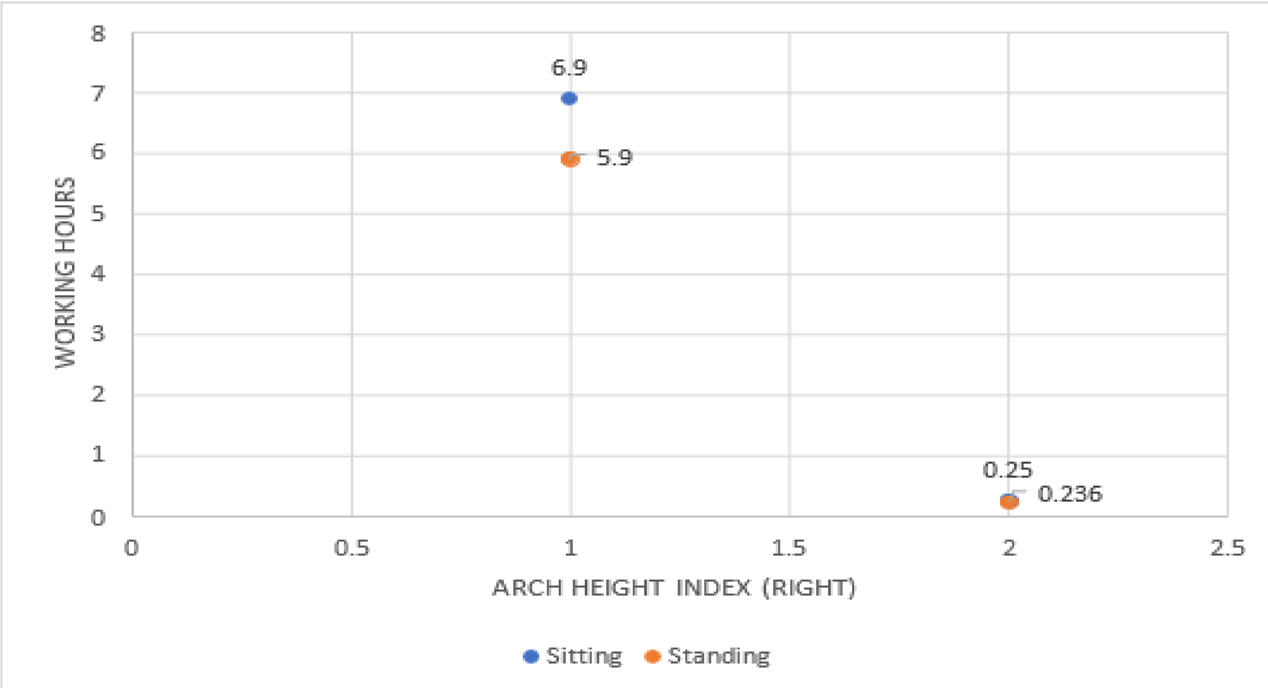
GRAPH 1: MEAN OF AHI OF GROUP A AND GROUP B

The above table and graph show the comparison of the Arch Height Index (AHI) between individuals engaged in prolonged standing (Group A) and prolonged sitting (Group B). Mean AHI values for both right and left feet were significantly higher in the sitting group, indicating better arch preservation. The p-values (< 0.05) suggest these differences are statistically significant.

- CORRELATION BETWEEN WORKING HOURS AND PLANTAR ARCH

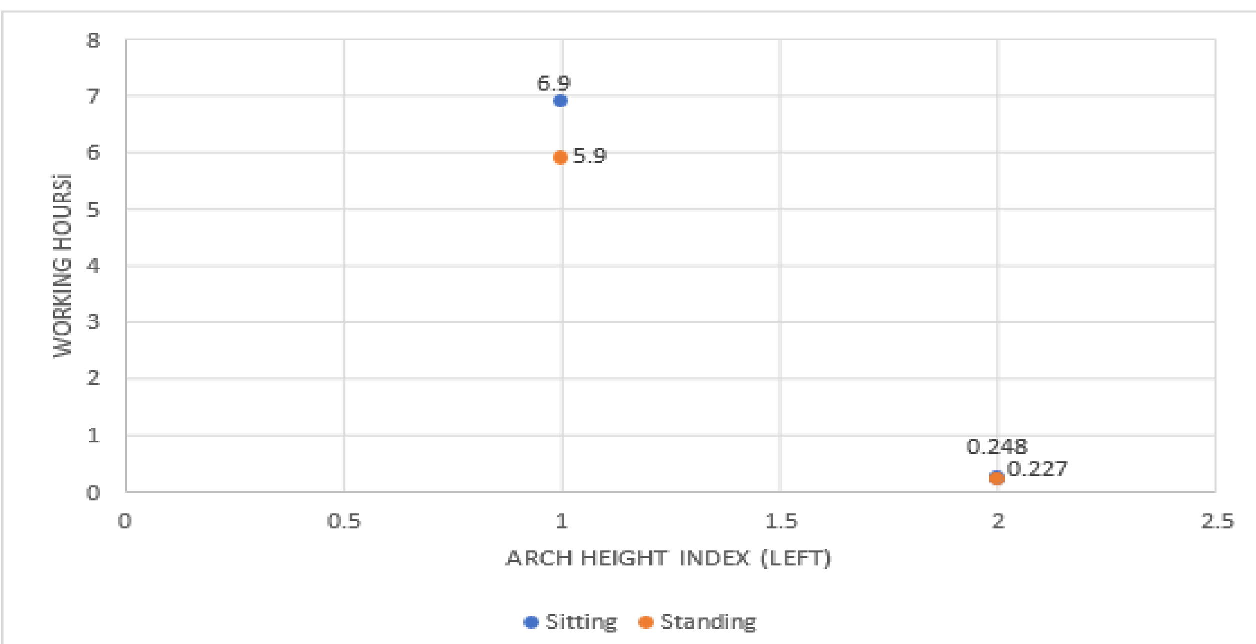
Group	Correlation Between	Spearman's ρ	p-value
Sitting	Working Hours vs AHI_R	–0.089	0.641
	Working Hours vs AHI_L	–0.103	0.588
Standing	Working Hours vs AHI_R	0.222	0.237
	Working Hours vs AHI_L	0.167	0.379

TABLE 4: CORRELATION BETWEEN WORKING HOURS AND PLANTAR ARCH IN GROUP A AND GROUP B



GRAPH 2: CORRELATION BETWEEN WORKING HOURS AND AHI (RIGHT)

The scatter plot shows that the sitting group had higher AHI (0.250) and longer working hours (6.9 hrs), while the standing group had lower AHI (0.236) and shorter hours (5.9 hrs). This suggests that prolonged standing may slightly reduce arch height, though the correlation is weak and not statistically significant.



GRAPH 3: CORRELATION BETWEEN WORKING HOURS AND AHI (LEFT)

The plot comparing working hours with AHI (Left) shows that the sitting group had a higher AHI (0.248) and longer working hours (6.9 hrs) than the standing group (AHI = 0.227; 5.9 hrs). This trend suggests that prolonged standing may contribute to decreased arch height on the left side as well, though the correlation remains weak and not statistically significant.

This study was conducted to evaluate and compare the effects of prolonged standing and prolonged sitting on the medial longitudinal arch using the Arch Height Index (AHI). The results revealed significant differences in AHI between the two occupational groups. The sitting group demonstrated higher AHI values for both the right and left foot compared to the standing group, indicating better arch preservation. Specifically, the mean AHI for the sitting group was 0.250 (right) and 0.248 (left), while the standing group had mean values of 0.236 (right) and 0.227 (left).

These findings suggest that prolonged standing may lead to reduced arch height, possibly due to mechanical fatigue and repetitive loading on foot structures. Previous studies support this interpretation. Kim and Nussbaum (2015) found that prolonged standing resulted in muscle fatigue and structural flattening of the foot arch [9]. Similarly, Redmond et al. (2009) observed that prolonged weight-bearing tasks altered foot posture and decreased the medial longitudinal arch height [6]. Burns et al. (2005) also reported a high prevalence of foot disorders among individuals with standing-intensive jobs, attributing many of these issues to arch fatigue [15]. Conversely, the sitting group, despite engaging in sedentary behavior, maintained relatively higher AHI values. This may be due to reduced compressive forces on the plantar structures. Lin et al. (2016) reported that intrinsic foot muscle weakness is more common in sedentary individuals, yet this does not always translate to structural arch collapse in the short term [11]. Menz et al. (2013) emphasized that while inactivity can diminish muscle activation, arch integrity may remain intact unless accompanied by other risk factors [10].

However, the correlation analysis between working hours and AHI revealed weak and statistically non-significant relationships. In the sitting group, working hours showed weak negative correlations with both AHI_R ($\rho = -0.089$, $p = 0.641$) and AHI_L ($\rho = -0.103$, $p = 0.588$), indicating that increased sedentary time may have minimal impact on arch height. In the standing group, weak positive correlations were found (AHI_R: $\rho = 0.222$, $p = 0.237$; AHI_L: $\rho = 0.167$, $p = 0.379$), suggesting only a minor trend toward arch flattening with longer standing durations.

The strong intra-group correlation between AHI_R and AHI_L in both groups ($\rho > 0.85$) indicates consistency in arch morphology between limbs. This is in line with earlier findings that foot structure is typically symmetrical unless influenced by pathology or trauma [7].

These results underscore the need for ergonomic interventions in both occupational settings. Prolonged standing workers may benefit from foot-friendly flooring, arch support footwear, and task variation to reduce fatigue. Similarly, sedentary workers should be encouraged to perform regular intrinsic foot muscle exercises to prevent muscle deconditioning and potential long-term weakening [17].

Taspinar et al. (2013) highlighted that alternating between sitting and standing postures during work hours can help balance load distribution on the lower limbs, potentially preserving foot arch structure [16]. Saadah et al. (2014) further suggested that proper footwear and periodic movement significantly reduce strain on the plantar fascia and contribute to arch preservation [17].

Overall, while this study confirms that prolonged posture affects AHI, it also indicates that both extremes—excessive sitting or standing—can negatively impact foot health. A balanced occupational strategy that integrates movement, postural variation, and preventive exercises is essential.

XIII. LIMITATIONS

1. The sample size was relatively small and limited to a specific age group (24–40 years), which may not be representative of all occupational populations.
2. The cross-sectional nature of the study restricts the interpretation of long-term postural effects on foot arch structure.
3. Only static AHI measurements were taken; dynamic foot assessments such as plantar pressure mapping or gait analysis were not included.
4. Gender-specific analysis was not performed, though gender differences may influence foot structure.
5. Variations in participants' footwear during work hours were not controlled or standardized.

XIV. RECOMMENDATIONS

1. Future research should use a longitudinal design to monitor changes in AHI over time.
2. Larger, more diverse samples should be recruited to enhance external validity.
3. Incorporate dynamic foot function assessments to better understand how posture affects foot biomechanics during movement.
4. Evaluate gender-based and age-based variations in arch height.
5. Develop and test workplace-based ergonomic interventions such as alternating postures, proper footwear, and foot-strengthening exercise programs to reduce the risk of arch degeneration.

This study concludes that prolonged occupational posture—whether standing or sitting—has a measurable impact on the medial longitudinal arch of the foot. Individuals in prolonged sitting roles exhibited higher AHI values, indicating better arch preservation, while those in prolonged standing roles showed decreased AHI, suggesting potential arch fatigue or flattening. Although the correlation between working hours and AHI was not statistically significant, the observed group differences highlight the role of posture in influencing foot structure.

These findings reinforce the importance of understanding occupational biomechanics, particularly in professions requiring static postures. They also highlight the potential need for implementing ergonomic practices such as alternating postures, promoting foot mobility, and integrating preventive foot care exercises into daily routines. Additionally, raising awareness among both employees and employers about the long-term musculoskeletal risks associated with prolonged standing or sitting can support a healthier work environment.

Ultimately, this study emphasizes that neither sitting nor standing in excess is ideal. Instead, a balanced occupational routine supported by targeted interventions and workplace modifications can contribute significantly to preserving foot health and preventing functional impairments in the long run.

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ANNEXURE I CONSENT FORM

TEERTHANKER MAHAVEER UNIVERSITY DEPARTMENT OF PHYSIOTHERAPY
Delhi Road, Moradabad – 244001

Study Title: The Effect of prolonged standing and prolonged sitting on plantar arch
Aim of Research: The purpose of the study is to find out the effect of prolonged standing and prolonged sitting on plantar

Subject's Full Name:
Age / Gender:
1. I confirm that I have read and understood the information sheet dated ______________for the above Study and have had the opportunity to ask questions or I have been explained to the nature of the study by the Investigator and had the opportunity to ask questions.
2. I understand that my participation in the study is voluntary, and I am free to withdraw at any time, without Giving any reason and without my medical care of legal right being affected.
3. I understand that the sponsor of the clinical trial/project, other working on the Sponsor's behalf, the ethical Committee and the regulatory authorities will not need my permission to look at my health record both in respect of the current study and any further research that may be conducted in relation to it, even if I Withdraw from the trial. However, I understand that my Identity will not be revealed in any information released to third parties or published.
4. I agree not to restrict the use of any data or results that arise from this study provided such a use is only for scientific purposes.
5. I agree to take part in the above study.
Signature (or Thumb impression) of the Subject/Legally Acceptable Representative:

Signatory's Name______________________________________ Date__________ Signature of Investigator ____

ANNEXURE II ASSESSMENT PERFORMA

Demographic Data

- Name -
- Age –
- Gender –
- Contact No. –
- Address –

- Occupation –
- No. of sitting hours –
- Height-
- Weight-

Outcome Variable	Right	Left
Dorsum Height		
Truncated Foot Length		
AHI		

ANNEXURE III
MASTER CHART (GROUP A: SITTING)

S.NO	NAME	AGE (Year)	GENDER	HEIGHT (cm)	WEIGHT (Kg)	AHI (Left)	AHI (Right)	WORKING HOURS
1	Shabas Khan	30	Male	177	75	0.26	0.26	8
2	Rutba Shamsi	26	Female	176	68	0.26	0.25	6
3	Misba	26	Female	168	60	0.26	0.25	6-7
4	Humera Vakas	28	Female	173	65	0.25	0.26	8
5	Prince Benwal	32	Male	182	88	0.25	0.26	7
6	Yatin Sharma	29	Male	178	85	0.27	0.27	6
7	Harish Verma	26	Male	169	75	0.26	0.26	8
8	Prigya Saxena	25	Female	177	69	0.25	0.25	7
9	Khushal Tandon	28	Male	168	82	0.25	0.26	5-6
10	Vikram Sneha	33	Male	184 cm	89	0.23	0.24	5
11	Mayank Prajapati	27	Male	175 cm	81	0.24	0.24	8
12	Dharamveer	32	Male	180 cm	76	0.24	0.25	6-7
13	Shruti Rasogi	26	Female	176 cm	68	0.25	0.25	7-8
14	Ilma Raini	25	Female	177 cm	72	0.26	0.27	8
15	Shivam Saxena	35	Male	169 cm	75	0.24	0.24	5-6
16	khushboo Rani	25	Female	165 cm	63	0.26	0.26	7
17	Aqsa han	24	Female	178 cm	64	0.25	0.25	6
18	Abhijeet Singh	30	Male	176 cm	82	0.25	0.25	8
19	Mannpreet	27	Male	182 cm	87	0.26	0.26	8
20	Noori Jhan	23	Female	160 cm	62	0.26	0.26	6
21	Hiba Qureshi	28	Female	165 cm	67	0.24	0.24	6-7
22	vrashti Pal	28	Female	169 cm	69	0.27	0.28	8
23	Rishab Kapoor	34	Male	178 cm	76	0.31	0.31	6
24	Mahir Abdulah	25	Male	177 cm	80	0.29	0.28	5

25	Gulnaz Kaur	24	Female	175 cm	70	0.27	0.26	5-6
26	Kumari Huma	28	Female	164 cm	67	0.24	0.26	6
27	Deepak Thakur	28	Male	173 cm	73	0.16	0.16	8
28	Sheeba Naaz	23	Female	160 cm	62	0.23	0.23	7-8
29	Anant Pratap Singh	27	Male	179 cm	81	0.18	0.19	7
30	Sneha Sachdeva	31	Female	169 cm	67	0.21	0.21	6

MASTER CHART (GROUP B: STANDING)

S.NO	NAME	AGE	GENDER	HEIGHT (cm)	WEIGHT (Kg)	AHI (Left)	AHI (Right)	WORKING HOURS
1	Deepak Singh	25	Male	170	68	0.18	0.19	5-6
2	Areeba Shamsi	26	Female	165	72	0.18	0.19	6
3	Mishba Khan	28	Female	180	75	0.21	0.23	6
4	Jatin Kumar	25	Male	160	80	0.22	0.23	5
5	Abbas Ahmad	29	Male	175	70	2.24	0.22	4
6	Maneesh Kumar	25	Male	185	78	0.21	0.22	5-6
7	Arham Usmani	27	Male	172	65	0.19	0.20	5
8	Manju Sharma	27	Female	178	90	0.23	0.24	7
9	Urooj Khan	25	Female	168	60	0.23	0.24	5-6
10	Tuba Bi	26	Female	182	85	0.24	0.25	6
11	Tanish Rajput	26	Male	169	74	0.26	0.27	7
12	Shivangi Chauhan	28	Female	177	68	0.26	0.27	6-7
13	Khushi verma	27	Female	174	77	0.18	0.19	5
14	Arohi Rajput	25	Female	161	66	0.23	0.24	4-5
15	Anas Khan	29	Male	179	83	0.21	0.22	6-7
16	Adnan Raees	33	Male	171	70	0.27	0.25	6-7
17	Ahad Khan	26	Male	166	79	0.21	0.22	7
18	Amir Saifi	27	Male	181	73	0.17	0.20	7
19	Mandeep Thakur	30	Male	173	76	0.23	0.23	5
20	Momin Khan	25	Male	167	85	0.24	0.25	6-7
21	Rishi Sharma	26	Male	176	69	0.24	0.25	4-5
22	Vaibhav Kumar	29	Male	183	82	0.28	0.26	6
23	Anchal Gupta	28	Female	162	75	0.25	0.26	5-6
24	Saheeba Neesa	25	Female	178	71	0.19	0.20	4

25	Shalini Sharma	31	Female	177	68	0.30	0.31	6
26	Ankit	29	Male	168	79	0.22	0.23	5
27	Manna Ahmed	27	Male	172	70	0.21	0.22	6-7
28	Kaif	38	Male	177	68	0.27	0.28	6
29	Mehek Khannam	26	Female	163	69	0.25	0.26	4
30	Gurjeet Singh	30	Male	179	81	0.25	0.27	7