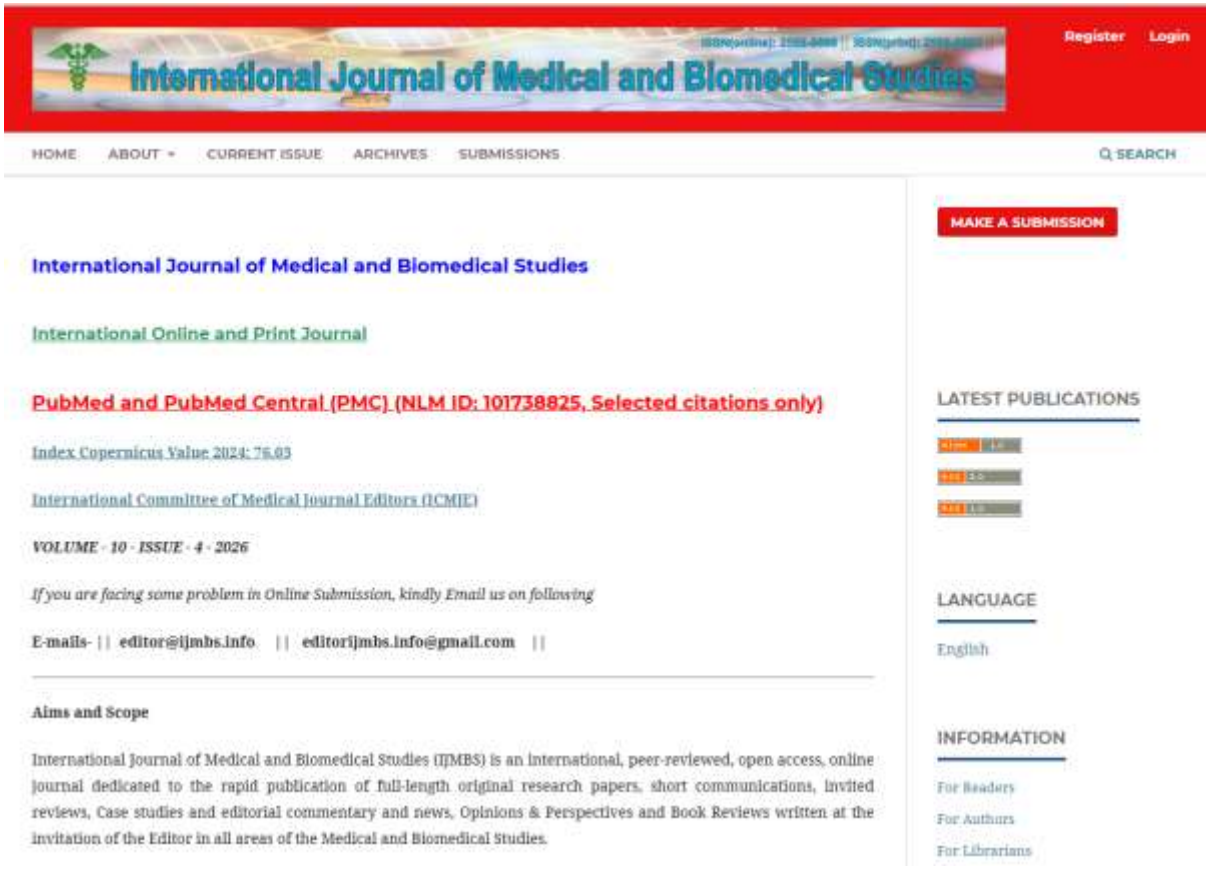
Cover journal IJMBS



Editorial Board

Editorial Board

MAKE A SUBMISSION

LATEST PUBLICATIONS

LANGUAGE

English

INFORMATION

For Readers

For Authors

Dr. Tanaji D. Nandgude

Department of Pharmaceutics,

Dr. D. Y. Patil Institute of Pharmaceutical, Sciences and Research, Pimpri, Pune-411 018

Ms. Anuja Kolsure - Nandgude

Department of Pharmaceutical Chemistry,

JSPM's Jayawantrao Sawant College of Pharmacy & Research, Hadapsar, Pune- 411 028

Arshad Ali Noorani

Post doctoral researcher, MichaelS. Wolfelab, Department of Medicinal, Chemistry, University of Kansas, Kansas, USA.

Dr. Kishor V. Otari,

Principal,

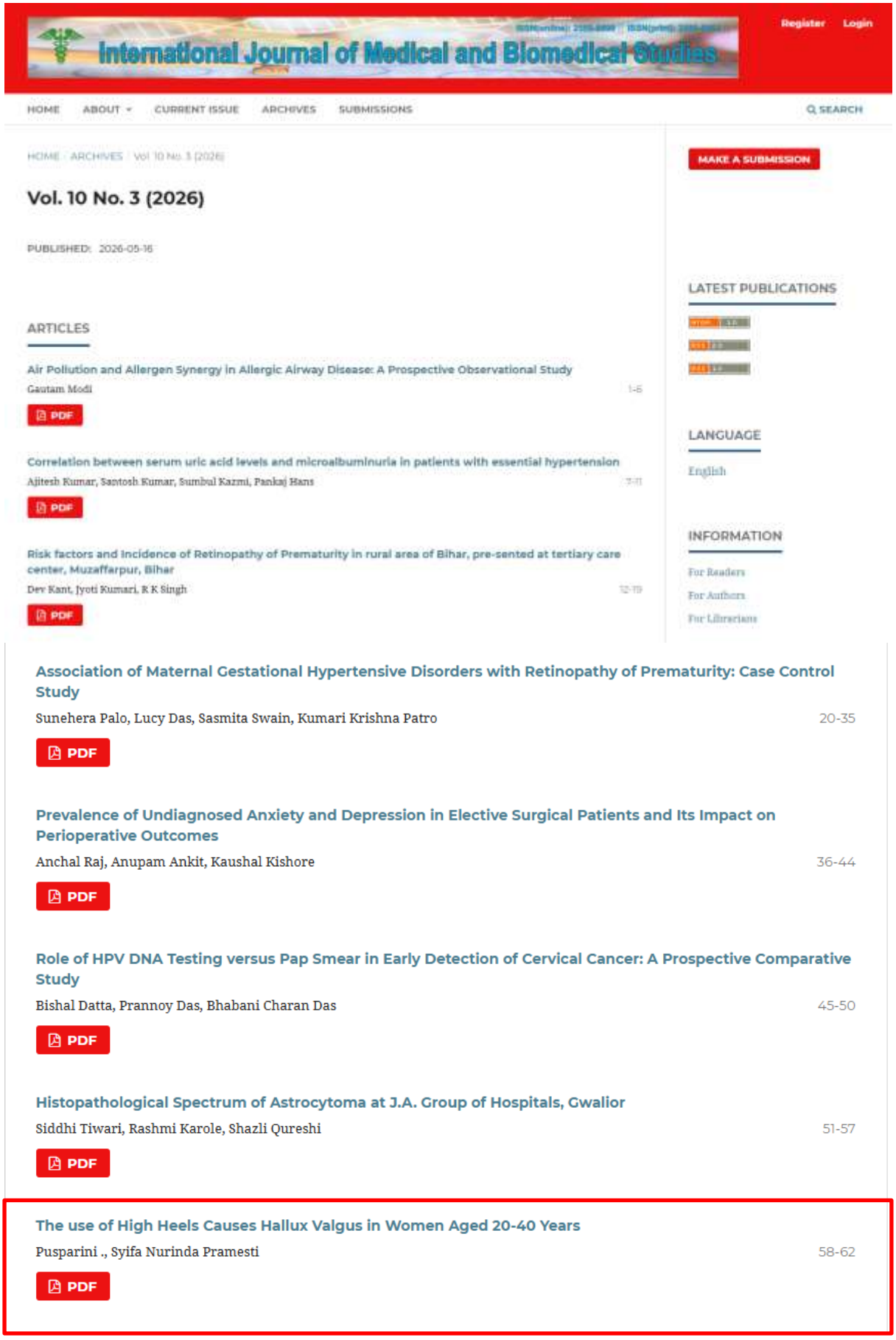
Navsahyadri College of Pharmacy, Pune

Dr. Akshay Berad

MBBS., MD., Physiology

Associate Professor, Department of Physiology, Rajiv Gandhi Institute of Medical Science, Adilabad, Telangana

Daftar isi



International Journal of Medical and Biomedical Studies

Register Login

HOME ABOUT CURRENT ISSUE ARCHIVES SUBMISSIONS SEARCH

HOME / ARCHIVES / Vol. 10 No. 3 (2026)

MAKE A SUBMISSION

Vol. 10 No. 3 (2026)

PUBLISHED: 2026-05-16

ARTICLES

Air Pollution and Allergen Synergy in Allergic Airway Disease: A Prospective Observational Study
Gautam Modi 1-6
PDF

Correlation between serum uric acid levels and microalbuminuria in patients with essential hypertension
Ajitesh Kumar, Santosh Kumar, Sumbul Kazmi, Pankaj Hans 7-11
PDF

Risk factors and incidence of Retinopathy of Prematurity in rural area of Bihar, pre-sented at tertiary care center, Muzaffarpur, Bihar
Dev Kant, Jyoti Kumari, R K Singh 12-19
PDF

LATEST PUBLICATIONS

LANGUAGE
English

INFORMATION
For Readers
For Authors
For Librarians

Association of Maternal Gestational Hypertensive Disorders with Retinopathy of Prematurity: Case Control Study
Sunehera Palo, Lucy Das, Sasmita Swain, Kumari Krishna Patro 20-35
PDF

Prevalence of Undiagnosed Anxiety and Depression in Elective Surgical Patients and Its Impact on Perioperative Outcomes
Anchal Raj, Anupam Ankit, Kaushal Kishore 36-44
PDF

Role of HPV DNA Testing versus Pap Smear in Early Detection of Cervical Cancer: A Prospective Comparative Study
Bishal Datta, Prannoy Das, Bhabani Charan Das 45-50
PDF

Histopathological Spectrum of Astrocytoma at J.A. Group of Hospitals, Gwalior
Siddhi Tiwari, Rashmi Karole, Shazli Qureshi 51-57
PDF

The use of High Heels Causes Hallux Valgus in Women Aged 20-40 Years
Pusparini ., Syifa Nurinda Pramesti 58-62
PDF

|| ISSN(online): 2589-8698 || ISSN(print): 2589-868X ||

Available online on http://www.ijmbs.info

International Journal of Medical and Biomedical Studies; 2026; 10(3); 58-62

Original Research Article

The use of High Heels Causes Hallux Valgus in Women Aged 20-40 Years

Syifa Nurinda Pramesti[1], Pusparini[2*]

[1]Medical Professional Program, Faculty of Medicine, Universitas Trisakti, Jakarta, Indonesia

[2*] Clinical Pathology Department, Faculty of Medicine, Universitas Trisakti, Jakarta, Indonesia

Received: 10-05-2026 / Revised: 01-06-2026 / Accepted: 22-06-2026
DOI: https://doi.org/10.32553/ijmbs.v10i3.3294
Corresponding author: Pusparini (E-mail: pusparini@trisakti.ac.id)
Conflict of interest: No conflict of interest

Abstract:

Currently high-heeled shoes represent an attractive point in a women's image of sexuality. In general, female employees are required to pay attention to their appearance during work hours and one of the supporting factors of appearance are high-heeled shoes. The use of high-heeled shoes may potentially cause problems in the feet, such as hallux valgus. The aim of the present study was to determine the relationship between the use of high-heeled shoes and the incidence of hallux valgus in women. This cross-setional study involved 120 female respondents aged 20-40 years, who were divided into two groups, an intervention group consisting of 60 female employees of the Tangerang office of *Bank Tabungan Negara* (BTN) wearing high-heeled shoes and a control group of 60 female employees wearing flat-heeled shoes. High-heeled shoes were evaluated by measuring the height of the heels. Evaluation of hallux valgus was by means of the Manchester scale. Data analysis was performed by Chi-squared test and Fisher's Exact test at significance level of $p<0.05$. The proportion of users of high-heeled shoes who had hallux valgus was 90%, while the proportion of respondents with narrow toe box (the front section of high-heeled shoes) who had hallux valgus was 97.8%. The Chi-squared test results showed a significant relationship between the use of high-heeled shoes and the occurrence of hallux valgus, at $p=0.000$. The results of Fisher's Exact test showed a significant relationship between toe box and occurrence of hallux valgus, at $p=0.003$. This study's conclusion is that there is a significant relationship between the use of high-heeled shoes and the use of high-heeled shoes with cramped toe box in women on the one hand, and the occurrence of hallux valgus on the other hand.

Keywords: hallux valgus, female employees, high-heeled shoes, toe box.

Introduction

Currently high-heeled shoes are a point of attraction in a woman's image of sexuality.[(1)] In general, female employees are required to pay attention to their appearance during work hours and one of the supporting factors of appearance are high-heeled shoes.[(2)] In 2014 the American Podiatric Medical Association reported that 49% of women chose to use high-heeled shoes in daily life, and that 77% experienced problems with their feet.[(1)] The use of high-heeled shoes has been shown to be related to several foot problems, one of the most frequent and significant

problems occurring being hallux valgus (HV).[2] Hallux valgus is a chronic condition characterized by deformity of the first metatarsophalangeal joint, caused by lateral deviation of the big toe due to subluxation of the joint, thereby changing the direction of the toe away from the midline of the body.[3] According to the study by Dufour et al.[4], a history of usage of high-heeled shoes as the principal shoes that are used daily by women aged 20–64 years increases the risk of HV occurrence by 47%.[4] Studies have shown that elevation of the heel when wearing high-heeled shoes increases the pressure on the anterior ends of the metatarsals and limits the movement of the first metatarsophalangeal joint. In addition, shoes with a narrow toe box may increase the pressure on the medial aspect of the foot and between the toes.[5] Based on the study conducted by Soemarko et al.[3], the use of high-heeled shoes in sales promotion women shows a significant relationship of age, work duration, and use of high-heeled shoes with HV incidence.[3] On the other hand, the study conducted by Menz et al.[6] reported that the use of high-heeled shoes had no relationship with HV incidence.[6] Based on previous studies about the relationship between the use of high-heeled shoes and HV incidence, there are still pros and cons on the relationship between the use of high-heeled shoes and HV incidence in women, such that the authors were interested to study this relationship.

Methods

This study used a cross-sectional method involving 60 respondents as the study subjects and 60 respondents as controls. The study was conducted from October to December 2021 at the office of *Bank BTN* (State Savings Bank) Cikokol, Tangerang. The inclusion criteria for the study subjects were being female employees aged 20-40 years, using high-heeled shoes with heels of > 2.5 cm, having been employed for at least 12 months, duration of using high-heeled shoes ≥ 4 hours per day, body mass index (BMI) < 25 kg/m^2, and agreeing to become study respondents by signing informed consent. The inclusion criteria for the female controls were being female employees aged 20-40 years, using flat-heeled shoes, having been employed for at least 12 months, duration of using high-heeled shoes ≥ 4 hours per day, BMI< 25 kg/m^2, and agreeing to become study respondents by signing informed consent. The exclusion criteria were pregnant women and having a family history of HV. The subjects were selected by consecutive sampling. Subjects who agreed to participate as respondents underwent measurement of the shoe heels and the toe box or frontal portion of the shoes, and evaluation of HV using the Manchester scale.[7] The Manchester scale consists of 4 photographs depicting the HV severity grade, categorized into no deformity (grade 0), light deformity (grade 1), moderate deformity (grade 2), and severe deformity (grade 3); the photographs were compared with the appearance of the feet of the study respondent standing on a flat surface and selecting the picture that approaches the appearance of the feet by focusing only on the condition of the big toe of the patient and recording it.[7] BMI was categorized into four groups according to World Health Organization (WHO) for the Asia-Pacific population, namely underweight (<18.5 kg/m^2), normal weight (18.5–22.9 kg/m^2), overweight (23–24.9 kg/m^2), and obese (≥25 kg/m^2).[8] Data analysis was by means of the Chi-squared test at level of $p<0.05$ for significant difference. This study passed the ethical review by the Research Ethics Committee of the Faculty of Medicine, Universitas Trisakti, under no. 71/KER-FK/IX/2021.

Results

Table 1. Characteristics of study respondents

Variable	High-heeled shoes (n=60) X±SD	Flat-heeled shoes (n=60) X±SD
Age (years)	28 ± 5	24 ± 5
Length of employment (months)	60 ± 40	40 ± 41
Work duration per day (hours)	8 ± 1.6	8 ± 1.5
BMI (kg/m^2)	23 ± 1.6	21 ± 2.15

X: mean, SD : standard deviation, BMI : body mass index

Table 1 shows the characteristics of the study subjects and the causative factors of HV.

Table 21. Relationship between the use of high-heeled shoes and hallux valgus

Type of shoes	HV present (n/%)	HV absent (n/%)	p value
High-heeled shoes	54(90)	6(10)	<0.000*
Flat-heeled shoes	5(8.3)	55(91.7)	

*p<0.05 significantly different (Chi-squared test); HV : Hallux valgus

Table shows that there is a significant relationship between the use of high-heeled shoes and HV incidence, at p=0.000.

Table 32. Relationship between type of toe box of high-heeled shoes and incidence of hallux valgus

Toe box of high-heeled shoes	HV present (n/%)	HV absent (n/%)	p value
Narrow toe box	44(97.8)	1(2.2)	0,003*
Wide toe box	10(66.7)	5(33.3)	

*p<0.05 significantly different (Fisher's exact test); HV: hallux valgus

In Table 3, there is a significant relationship between the toe box of high-heeled shoes and HV incidence, at p=0.003.

Discussion

The age range of the respondents in this study was 20-40 years with mean age of 28 ± 5 years. The study of Dufour et al.[4] reported that high-heeled shoes are the main type of shoes that are used daily by women aged 20–64 years and that their use increases the risk of HV by 47%. Another study conducted by Palomo-López et al.[9] stated that female patients with HV were 20-65 years of age.[9] The incidence of HV increases with advancing age, because of the occurrence of changes in posture, joint kinematics, and pressure on the plantar area.[10] These changes result in disequilibrium between the intrinsic and extrinsic muscles of the feet and the involved ligamentous structures, that is generally believed to be the etiology of HV.[11]

The mean BMI of the respondents in this study was in the overweight category at 23± 1.6 kg/m^2. In this connection, the study of Asih et al. found that women using high-heeled shoes also had a BMI in the overweight category (45.2%).[12] A study conducted in Korea stated that a high BMI was significantly associated with the occurrence of HV.[13]. This agrees with the study conducted by Pratiwi et al., stating that BMI is an external factor of HV occurrence, where overweight BMI may counteract the function of the arch of the foot because of increases in the pressure on the sole, thereby causing HV.[14] Excessive BMI along with other external factors, such as the use of high heeled shoes, causes

pressure on the abductor muscles, resulting in the valgus position.[14]

The mean duration of use of high-heeled shoes in the present study was 8 hours per day. The study by Soemarko et al. stated that in 94% of cases, the most frequent use of high-heeled shoes per day was >7.5 hours.[2] The duration of use of high-heeled shoes of > 4 hours per day is an extrinsic factor for the occurrence of HV, because it may cause micro-traumas during work, that may become a permanent injury, thereby resulting in deformity.[15]

The mean length of employment with the daily use of high-heeled shoes during work was 60 months. The study conducted by Perera stated that women with a length of employment of >4 years while using high-heeled shoes in daily life, are at 5.2 times higher risk for having HV, in comparison with women with a length of employment of <4 years, because of repeated trauma and increased pressure on the metatarsals.[10]

The results of the present study show a significant relationship between the use of high-heeled shoes and HV incidence, at p=<0.000. Interestingly, the study by Soemarko also showed a similar relationship between the use of high-heeled shoes and HV incidence. The incidence of HV increases 2.77 times in women using high-heeled shoes with narrow toe box.[2] The study by Perera reported that the use of high-heeled shoes increases the pressure on the first metatarsal and the pressure on the frontal part of the feet and the spaces between the toes, that increases with the height of the heel, in comparison with flat-heeled shoes.[10] The study of Menz et al. also reported similar results. in that there is a significant relationship between the use of a narrow toe box on high-heeled shoes and HV incidence, at p= 0.003, where respondents using high-heeled shoes with narrow toe box have a 2.7 higher probability of HV than do respondents using flat-heeled shoes.[6] The use of shoes with narrow toe box causes the great toe to receive more pressure and may cause the phalanges of the big toe or hallux to turn into hallux valgus.[16] The results of the present study showed that the use of high-heeled shoes as the main pair of shoes that are used daily by female employees is the causative factor for HV, with an HV incidence of 90% in afore-mentioned females. In summary, there was a significant relationship between the use of high-heeled shoes and HV incidence and between narrow toe box in high-heeled shoes and HV incidence. The results of the present study are expected to become a reference on the importance of preventive measures by increasing the awareness of women using high-heeled shoes to pay more attention to the health of their feet, while with appropriate treatment it is expected that the HV deformity does not increase in severity.

Acknowledgment

The investigators wish to express their gratitude to the management of Bank BTN Cikokol Tangerang, Jakarta, Indonesia, who allowed the investigators to conduct the present study.

References

1. Wulan AJ, Rahayu A. The health risks of wearing high heeled shoes for the legs. Majority. 2016;5(3):22–7.
2. Soemarko DS, Rahmasari F, Fitriani DY. Hallux valgus as an occupational disease among Indonesian female workers : a study using seven steps of occupational diagnosis approach hallux valgus. eJKI. 2019;7(3):190–4.
3. Soemarko DS, Rahmasari F, Kamal AF. Hallux valgus among sales promotion women wearing high heels in a department store. J Orthop Surg. 2019;27(1):1–6.
4. Dufour AB, Casey VA, Golightly YM, Hannan MT. Characteristics associated with hallux valgus in a population-based study of older adults : the Framingham Foot Study.

Arthritis Care Res. 2015;66(12):1880–6.
5. Ray JJ, Friedmann AJ, Hanselman AE, Vaida J, Dayton PD, Hatch DJ, et al. Hallux valgus. Foot&Ankle Orthop. 2019;4(2):1–12.
6. Menz HB, Roddy E, Marshall M, Thomas MJ, Rathod T, Peat GM, et al. Epidemiology of shoe wearing patterns over time in older women : associations with foot pain and hallux valgus. J Gerontol Med Sci. 2016;71(12):1682–7.
7. Nakao H, Imaoka M, Hida M, Imai R, Nakamura M, Matsumoto K. Determination of individual factors associated with hallux valgus using SVM-RFE. BMC Musculoskelet Disord. 2023;24(534):1–7.
8. Okawa Y, Mitsuhashi T. The Asia-Pacific body mass index classification and new-onset chronic kidney disease in non-diabetic Japanese adults : a community-based longitudinal study from 1998 to 2023. Biomedicines. 2025;13(373):1–14.
9. Palomo-López P, Becerro-de-Bengoa-Vallejo R, Losa-Iglesias ME, Rodríguez-Sanz D, Calvo-Lobo C, López-López D. Impact of hallux valgus related of quality of life in women. Int Wound J. 2017;14:782–5.
10. Perera AM, Orth F, Mason L, Eng M, Stephens MM. The pathogenesis of hallux valgus. J Bone Jt Surg Am. 2011;93:1650–61.
11. Fraissler L, Konrads C, Hoberg M, Rudert M, Walcher M. Foot & ankle treatment of hallux valgus deformity. EOR. 2016;1(8):295-302.
12. Asih NKAP, Juhanna IV, Winaya IMN TS. Prevalence of hallux valgus in teachers and employees at Dalung Tourism Vocational High School in Bandung. MIFI. 2020;8(2):27–31.
13. Cho NH, Kim S, Kwon DJ, Kim HA. The prevalence of hallux valgus and its association with foot pain and function in a rural Korean community. J Bone Jt Surg Br. 2009;91:494–8.
14. Pratiwi GA, Winaya IMN PD. Hubungan antara berdiri lama terhadap terjadinya kejadian hallux valgus pada pramuniaga [Relationship between prolonged standing and incidence of hallux valgus in saleswomen]. MIFI. 2018;6(2):11–4. Indonesian.
15. Joseph TN, Mroczek KJ. Decision making in the treatment of hallux valgus. Bull NYU Hosp Jt Dis. 2007;65(1):19–23.
16. Okuda H, Juman S, Ueda A, Miki T, Shima M. Factors related to prevalence of hallux valgus in female university students : a cross-sectional study. J Epidemiol. 2014;24(3):200–8.

|| ISSN(online): 2589-8698 || ISSN(print): 2589-868X ||

Available online on http://www.ijmbs.info

International Journal of Medical and Biomedical Studies; 2026; 10(3); 58-62

Original Research Article

The use of High Heels Causes Hallux Valgus in Women Aged 20-40 Years

Syifa Nurinda Pramesti[1], Pusparini[2*]

[1]Medical Professional Program, Faculty of Medicine, Universitas Trisakti, Jakarta, Indonesia

[2*] Clinical Pathology Department, Faculty of Medicine, Universitas Trisakti, Jakarta, Indonesia

Received: 10-05-2026 / Revised: 01-06-2026 / Accepted: 22-06-2026
DOI: https://doi.org/10.32553/ijmbs.v10i3.3294
Corresponding author: Pusparini (E-mail: pusparini@trisakti.ac.id)
Conflict of interest: No conflict of interest

Abstract:

Currently high-heeled shoes represent an attractive point in a women's image of sexuality. In general, female employees are required to pay attention to their appearance during work hours and one of the supporting factors of appearance are high-heeled shoes. The use of high-heeled shoes may potentially cause problems in the feet, such as hallux valgus. The aim of the present study was to determine the relationship between the use of high-heeled shoes and the incidence of hallux valgus in women. This cross-setional study involved 120 female respondents aged 20-40 years, who were divided into two groups, an intervention group consisting of 60 female employees of the Tangerang office of *Bank Tabungan Negara* (BTN) wearing high-heeled shoes and a control group of 60 female employees wearing flat-heeled shoes. High-heeled shoes were evaluated by measuring the height of the heels. Evaluation of hallux valgus was by means of the Manchester scale. Data analysis was performed by Chi-squared test and Fisher's Exact test at significance level of $p<0.05$. The proportion of users of high-heeled shoes who had hallux valgus was 90%, while the proportion of respondents with narrow toe box (the front section of high-heeled shoes) who had hallux valgus was 97.8%. The Chi-squared test results showed a significant relationship between the use of high-heeled shoes and the occurrence of hallux valgus, at $p=0.000$. The results of Fisher's Exact test showed a significant relationship between toe box and occurrence of hallux valgus, at $p=0.003$. This study's conclusion is that there is a significant relationship between the use of high-heeled shoes and the use of high-heeled shoes with cramped toe box in women on the one hand, and the occurrence of hallux valgus on the other hand.

Keywords: hallux valgus, female employees, high-heeled shoes, toe box.

Introduction

Currently high-heeled shoes are a point of attraction in a woman's image of sexuality.[(1)] In general, female employees are required to pay attention to their appearance during work hours and one of the supporting factors of appearance are high-heeled shoes.[(2)] In 2014 the American Podiatric Medical Association reported that 49% of women chose to use high-heeled shoes in daily life, and that 77% experienced problems with their feet.[(1)] The use of high-heeled shoes has been shown to be related to several foot problems, one of the most frequent and significant

problems occurring being hallux valgus (HV).[2] Hallux valgus is a chronic condition characterized by deformity of the first metatarsophalangeal joint, caused by lateral deviation of the big toe due to subluxation of the joint, thereby changing the direction of the toe away from the midline of the body.[3] According to the study by Dufour et al.[4], a history of usage of high-heeled shoes as the principal shoes that are used daily by women aged 20–64 years increases the risk of HV occurrence by 47%.[4] Studies have shown that elevation of the heel when wearing high-heeled shoes increases the pressure on the anterior ends of the metatarsals and limits the movement of the first metatarsophalangeal joint. In addition, shoes with a narrow toe box may increase the pressure on the medial aspect of the foot and between the toes.[5] Based on the study conducted by Soemarko et al.[3], the use of high-heeled shoes in sales promotion women shows a significant relationship of age, work duration, and use of high-heeled shoes with HV incidence.[3] On the other hand, the study conducted by Menz et al.[6] reported that the use of high-heeled shoes had no relationship with HV incidence.[6] Based on previous studies about the relationship between the use of high-heeled shoes and HV incidence, there are still pros and cons on the relationship between the use of high-heeled shoes and HV incidence in women, such that the authors were interested to study this relationship.

Methods

This study used a cross-sectional method involving 60 respondents as the study subjects and 60 respondents as controls. The study was conducted from October to December 2021 at the office of *Bank BTN* (State Savings Bank) Cikokol, Tangerang. The inclusion criteria for the study subjects were being female employees aged 20-40 years, using high-heeled shoes with heels of > 2.5 cm, having been employed for at least 12 months, duration of using high-heeled shoes ≥ 4 hours per day, body mass index (BMI) < 25 kg/m^2, and agreeing to become study respondents by signing informed consent. The inclusion criteria for the female controls were being female employees aged 20-40 years, using flat-heeled shoes, having been employed for at least 12 months, duration of using high-heeled shoes ≥ 4 hours per day, BMI< 25 kg/m^2, and agreeing to become study respondents by signing informed consent. The exclusion criteria were pregnant women and having a family history of HV. The subjects were selected by consecutive sampling. Subjects who agreed to participate as respondents underwent measurement of the shoe heels and the toe box or frontal portion of the shoes, and evaluation of HV using the Manchester scale.[7] The Manchester scale consists of 4 photographs depicting the HV severity grade, categorized into no deformity (grade 0), light deformity (grade 1), moderate deformity (grade 2), and severe deformity (grade 3); the photographs were compared with the appearance of the feet of the study respondent standing on a flat surface and selecting the picture that approaches the appearance of the feet by focusing only on the condition of the big toe of the patient and recording it.[7] BMI was categorized into four groups according to World Health Organization (WHO) for the Asia-Pacific population, namely underweight (<18.5 kg/m^2), normal weight (18.5–22.9 kg/m^2), overweight (23–24.9 kg/m^2), and obese (≥25 kg/m^2).[8] Data analysis was by means of the Chi-squared test at level of $p<0.05$ for significant difference. This study passed the ethical review by the Research Ethics Committee of the Faculty of Medicine, Universitas Trisakti, under no. 71/KER-FK/IX/2021.

Results

Table 1. Characteristics of study respondents

Variable	High-heeled shoes (n=60) X±SD	Flat-heeled shoes (n=60) X±SD
Age (years)	28 ± 5	24 ± 5
Length of employment (months)	60 ± 40	40 ± 41
Work duration per day (hours)	8 ± 1.6	8 ± 1.5
BMI (kg/m^2)	23 ± 1.6	21 ± 2.15

X: mean, SD : standard deviation, BMI : body mass index

Table 1 shows the characteristics of the study subjects and the causative factors of HV.

Table 21. Relationship between the use of high-heeled shoes and hallux valgus

Type of shoes	HV present (n/%)	HV absent (n/%)	p value
High-heeled shoes	54(90)	6(10)	<0.000*
Flat-heeled shoes	5(8.3)	55(91.7)	

*p<0.05 significantly different (Chi-squared test); HV : Hallux valgus

Table shows that there is a significant relationship between the use of high-heeled shoes and HV incidence, at p=0.000.

Table 32. Relationship between type of toe box of high-heeled shoes and incidence of hallux valgus

Toe box of high-heeled shoes	HV present (n/%)	HV absent (n/%)	p value
Narrow toe box	44(97.8)	1(2.2)	0,003*
Wide toe box	10(66.7)	5(33.3)	

*p<0.05 significantly different (Fisher's exact test); HV: hallux valgus

In Table 3, there is a significant relationship between the toe box of high-heeled shoes and HV incidence, at p=0.003.

Discussion

The age range of the respondents in this study was 20-40 years with mean age of 28 ± 5 years. The study of Dufour et al.[4] reported that high-heeled shoes are the main type of shoes that are used daily by women aged 20–64 years and that their use increases the risk of HV by 47%. Another study conducted by Palomo-López et al.[9] stated that female patients with HV were 20-65 years of age.[9] The incidence of HV increases with advancing age, because of the occurrence of changes in posture, joint kinematics, and pressure on the plantar area.[10] These changes result in disequilibrium between the intrinsic and extrinsic muscles of the feet and the involved ligamentous structures, that is generally believed to be the etiology of HV.[11]

The mean BMI of the respondents in this study was in the overweight category at 23± 1.6 kg/m^2. In this connection, the study of Asih et al. found that women using high-heeled shoes also had a BMI in the overweight category (45.2%).[12] A study conducted in Korea stated that a high BMI was significantly associated with the occurrence of HV.[13]. This agrees with the study conducted by Pratiwi et al., stating that BMI is an external factor of HV occurrence, where overweight BMI may counteract the function of the arch of the foot because of increases in the pressure on the sole, thereby causing HV.[14] Excessive BMI along with other external factors, such as the use of high heeled shoes, causes

pressure on the abductor muscles, resulting in the valgus position.[14]

The mean duration of use of high-heeled shoes in the present study was 8 hours per day. The study by Soemarko et al. stated that in 94% of cases, the most frequent use of high-heeled shoes per day was >7.5 hours.[2] The duration of use of high-heeled shoes of > 4 hours per day is an extrinsic factor for the occurrence of HV, because it may cause micro-traumas during work, that may become a permanent injury, thereby resulting in deformity.[15]

The mean length of employment with the daily use of high-heeled shoes during work was 60 months. The study conducted by Perera stated that women with a length of employment of >4 years while using high-heeled shoes in daily life, are at 5.2 times higher risk for having HV, in comparison with women with a length of employment of <4 years, because of repeated trauma and increased pressure on the metatarsals.[10]

The results of the present study show a significant relationship between the use of high-heeled shoes and HV incidence, at p=<0.000. Interestingly, the study by Soemarko also showed a similar relationship between the use of high-heeled shoes and HV incidence. The incidence of HV increases 2.77 times in women using high-heeled shoes with narrow toe box.[2] The study by Perera reported that the use of high-heeled shoes increases the pressure on the first metatarsal and the pressure on the frontal part of the feet and the spaces between the toes, that increases with the height of the heel, in comparison with flat-heeled shoes.[10] The study of Menz et al. also reported similar results. in that there is a significant relationship between the use of a narrow toe box on high-heeled shoes and HV incidence, at p= 0.003, where respondents using high-heeled shoes with narrow toe box have a 2.7 higher probability of HV than do respondents using flat-heeled shoes.[6] The use of shoes with narrow toe box causes the great toe to receive more pressure and may cause the phalanges of the big toe or hallux to turn into hallux valgus.[16] The results of the present study showed that the use of high-heeled shoes as the main pair of shoes that are used daily by female employees is the causative factor for HV, with an HV incidence of 90% in afore-mentioned females. In summary, there was a significant relationship between the use of high-heeled shoes and HV incidence and between narrow toe box in high-heeled shoes and HV incidence. The results of the present study are expected to become a reference on the importance of preventive measures by increasing the awareness of women using high-heeled shoes to pay more attention to the health of their feet, while with appropriate treatment it is expected that the HV deformity does not increase in severity.

Acknowledgment

The investigators wish to express their gratitude to the management of Bank BTN Cikokol Tangerang, Jakarta, Indonesia, who allowed the investigators to conduct the present study.

References

1. Wulan AJ, Rahayu A. The health risks of wearing high heeled shoes for the legs. Majority. 2016;5(3):22–7.
2. Soemarko DS, Rahmasari F, Fitriani DY. Hallux valgus as an occupational disease among Indonesian female workers : a study using seven steps of occupational diagnosis approach hallux valgus. eJKI. 2019;7(3):190–4.
3. Soemarko DS, Rahmasari F, Kamal AF. Hallux valgus among sales promotion women wearing high heels in a department store. J Orthop Surg. 2019;27(1):1–6.
4. Dufour AB, Casey VA, Golightly YM, Hannan MT. Characteristics associated with hallux valgus in a population-based study of older adults : the Framingham Foot Study.

Arthritis Care Res. 2015;66(12):1880–6.
5. Ray JJ, Friedmann AJ, Hanselman AE, Vaida J, Dayton PD, Hatch DJ, et al. Hallux valgus. Foot&Ankle Orthop. 2019;4(2):1–12.
6. Menz HB, Roddy E, Marshall M, Thomas MJ, Rathod T, Peat GM, et al. Epidemiology of shoe wearing patterns over time in older women : associations with foot pain and hallux valgus. J Gerontol Med Sci. 2016;71(12):1682–7.
7. Nakao H, Imaoka M, Hida M, Imai R, Nakamura M, Matsumoto K. Determination of individual factors associated with hallux valgus using SVM-RFE. BMC Musculoskelet Disord. 2023;24(534):1–7.
8. Okawa Y, Mitsuhashi T. The Asia-Pacific body mass index classification and new-onset chronic kidney disease in non-diabetic Japanese adults : a community-based longitudinal study from 1998 to 2023. Biomedicines. 2025;13(373):1–14.
9. Palomo-López P, Becerro-de-Bengoa-Vallejo R, Losa-Iglesias ME, Rodríguez-Sanz D, Calvo-Lobo C, López-López D. Impact of hallux valgus related of quality of life in women. Int Wound J. 2017;14:782–5.
10. Perera AM, Orth F, Mason L, Eng M, Stephens MM. The pathogenesis of hallux valgus. J Bone Jt Surg Am. 2011;93:1650–61.
11. Fraissler L, Konrads C, Hoberg M, Rudert M, Walcher M. Foot & ankle treatment of hallux valgus deformity. EOR. 2016;1(8):295-302.
12. Asih NKAP, Juhanna IV, Winaya IMN TS. Prevalence of hallux valgus in teachers and employees at Dalung Tourism Vocational High School in Bandung. MIFI. 2020;8(2):27–31.
13. Cho NH, Kim S, Kwon DJ, Kim HA. The prevalence of hallux valgus and its association with foot pain and function in a rural Korean community. J Bone Jt Surg Br. 2009;91:494–8.
14. Pratiwi GA, Winaya IMN PD. Hubungan antara berdiri lama terhadap terjadinya kejadian hallux valgus pada pramuniaga [Relationship between prolonged standing and incidence of hallux valgus in saleswomen]. MIFI. 2018;6(2):11–4. Indonesian.
15. Joseph TN, Mroczek KJ. Decision making in the treatment of hallux valgus. Bull NYU Hosp Jt Dis. 2007;65(1):19–23.
16. Okuda H, Juman S, Ueda A, Miki T, Shima M. Factors related to prevalence of hallux valgus in female university students : a cross-sectional study. J Epidemiol. 2014;24(3):200–8.

The use of high heels causes Hallux falgus in women aged 20-40 years

By Pusparini Pusparini

WORD COUNT 2798
TIME SUBMITTED 01-JUL-2026 09:50AM
PAPER ID 122487275

|| ISSN(online): 2589-8698 || ISSN(print): 2589-868X ||

Available online on http://www.ijmbs.info

International Journal of Medical and Biomedical Studies; 2026; 10(3); 58-62

Original Research Article

The use of High Heels Causes Hallux Valgus in Women Aged 20-40 Years

Syifa Nurinda Pramesti[1], Pusparini[2*]

[1]Medical Professional Program, Faculty of Medicine, Universitas Trisakti, Jakarta, Indonesia

[2*] Clinical Pathology Department, Faculty of Medicine, Universitas Trisakti, Jakarta, Indonesia

Received: 10-05-2026 / Revised: 01-06-2026 / Accepted: 22-06-2026
DOI: https://doi.org/10.32553/ijmbs.v10i3.3294
Corresponding author: Pusparini (E-mail: pusparini@trisakti.ac.id)
Conflict of interest: No conflict of interest

Abstract:

Currently high-heeled shoes represent an attractive point in a women's image of sexuality. In general, female employees are required to pay attention to their appearance during work hours and one of the supporting factors of appearance are high-heeled shoes. The use of high-heeled shoes may potentially cause problems in the feet, such as hallux valgus. The aim of the present study was to determine the relationship between the use of high-heeled shoes and the incidence of hallux valgus in women. This cross-setional study involved 120 female respondents aged 20-40 years, who were divided into two groups, an intervention group consisting of 60 female employees of the Tangerang office of *Bank Tabungan Negara* (BTN) wearing high-heeled shoes and a control group of 60 female employees wearing flat-heeled shoes. High-heeled shoes were evaluated by measuring the height of the heels. Evaluation of hallux valgus was by means of the Manchester scale. Data analysis was performed by Chi-squared test and Fisher's Exact test at significance level of $p<0.05$. The proportion of users of high-heeled shoes who had hallux valgus was 90%, while the proportion of respondents with narrow toe box (the front portion of high-heeled shoes) who had hallux valgus was 97.8%. The Chi-squared test results showed a significant relationship between the use of high-heeled shoes and the occurrence of hallux valgus, at $p=0.000$. The results of Fisher's Exact test showed a significant relationship between toe box and occurrence of hallux valgus, at $p=0.003$. This study's conclusion is that there is a significant relationship between the use of high-heeled shoes and the use of high-heeled shoes with cramped toe box in women on the one hand, and the occurrence of hallux valgus on the other hand.

Keywords: hallux valgus, female employees, high-heeled shoes, toe box.

Introduction

Currently high-heeled shoes are a point of attraction in a woman's image of sexuality.(1) In general, female employees are required to pay attention to their appearance during work hours and one of the supporting factors of appearance are high-heeled shoes.(2) In 2014 the American Podiatric Medical Association reported that 49% of women chose to use high-heeled shoes in daily life, and that 77% experienced problems with their feet.(1) The use of high-heeled shoes has been shown to be related to several foot problems, one of the most frequent and significant

problems occurring being hallux valgus (HV).[2] Hallux valgus is a chronic condition characterized by deformity of the first metatarsophalangeal joint, caused by lateral deviation of the big toe due to subluxation of the joint, thereby changing the direction of the toe away from the midline of the body.[3] According to the study by Dufour et al.[4], a history of usage of high-heeled shoes as the principal shoes that are used daily by women aged 20–64 years increases the risk of HV occurrence by 47%.[4] Studies have shown that elevation of the heel when wearing high-heeled shoes increases the pressure on the anterior ends of the metatarsals and limits the movement of the first metatarsophalangeal joint. In addition, shoes with a narrow toe box may increase the pressure on the medial aspect of the foot and between the toes.[5] Based on the study conducted by Soemarko et al.[3], the use of high-heeled shoes in sales promotion women shows a significant relationship of age, work duration, and use of high-heeled shoes with HV incidence.[3] On the other hand, the study conducted by Menz et al.[6] reported that the use of high-heeled shoes had no relationship with HV incidence.[6] Based on previous studies about the relationship between the use of high-heeled shoes and HV incidence, there are still pros and cons on the relationship between the use of high-heeled shoes and HV incidence in women, such that the authors were interested to study this relationship.

Methods

This study used a cross-sectional method involving 60 respondents as the study subjects and 60 respondents as controls. The study was conducted from October to December 2021 at the office of *Bank BTN* (State Savings Bank) Cikokol, Tangerang. The inclusion criteria for the study subjects were being female employees aged 20-40 years, using high-heeled shoes with heels of > 2.5 cm, having been employed for at least 12 months, duration of using high-heeled shoes ≥ 4 hours per day, body mass index (BMI) < 25 kg/m^2, and agreeing to become study respondents by signing informed consent. The inclusion criteria for the female controls were being female employees aged 20-40 years, using flat-heeled shoes, having been employed for at least 12 months, duration of using high-heeled shoes ≥ 4 hours per day, BMI< 25 kg/m^2, and agreeing to become study respondents by signing informed consent. The exclusion criteria were pregnant women and having a family history of HV. The subjects were selected by consecutive sampling. Subjects who agreed to participate as respondents underwent measurement of the shoe heels and the toe box or frontal portion of the shoes, and evaluation of HV using the Manchester scale.[7] The Manchester scale consists of 4 photographs depicting the HV severity grade, categorized into no deformity (grade 0), light deformity (grade 1), moderate deformity (grade 2), and severe deformity (grade 3); the photographs were compared with the appearance of the feet of the study respondent standing on a flat surface and selecting the picture that approaches the appearance of the feet by focusing only on the condition of the big toe of the patient and recording it.[7] BMI was categorized into four groups according to World Health Organization (WHO) for the Asia-Pacific population, namely underweight (<18.5 kg/m^2), normal weight (18.5–22.9 kg/m^2), overweight (23–24.9 kg/m^2), and obese (≥ kg/m^2).[8] Data analysis was by means of the Chi-squared test at level of $p<0.05$ for significant difference. This study passed the ethical review by the Research Ethics Committee of the Faculty of Medicine, Universitas Trisakti, under no. 71/KER-FK/IX/2021.

Results

Table 1. Characteristics of study respondents

Variable	High-heeled shoes (n=60) X±SD	Flat-heeled shoes (n=60) X±SD
Age (years)	28 ± 5	24 ± 5
Length of employment (months)	60 ± 40	40 ± 41
Work duration per day (hours)	8 ± 1.6	8 ± 1.5
BMI (kg/m^2)	23 ± 1.6	21 ± 2.15

X: mean, SD : standard deviation, BMI : body mass index

Table 1 shows the characteristics of the study subjects and the causative factors of HV.

Table 21. Relationship between the use of high-heeled shoes and hallux valgus

Type of shoes	HV present (n/%)	HV absent (n/%)	p value
High-heeled shoes	54(90)	6(10)	<0.000*
Flat-heeled shoes	5(8.3)	55(91.7)	

*p<0.05 significantly different (Chi-squared test); HV : Hallux valgus

Table shows that there is a significant relationship between the use of high-heeled shoes and HV incidence, at p=0.000.

Table 32. Relationship between type of toe box of high-heeled shoes and incidence of hallux valgus

Toe box of high-heeled shoes	HV present (n/%)	HV absent (n/%)	p value
Narrow toe box	44(97.8)	1(2.2)	0,003*
Wide toe box	10(66.7)	5(33.3)	

*p<0.05 significantly different (Fisher's exact test); HV: hallux valgus

In Table 3, there is a significant relationship between the toe box of high-heeled shoes and HV incidence, at p=0.003.

Discussion

The age range of the respondents in this study was 20-40 years with mean age of 28 ± 5 years. The study of Dufour et al.[4] reported that high-heeled shoes are the main type of shoes that are used daily by women aged 20–64 years and that their use increases the risk of HV by 47%. Another study conducted by Palomo-López et al.[9] stated that female patients with HV were 20-65 years of age.[9] The incidence of HV increases with advancing age, because of the occurrence of changes in posture, joint kinematics, and pressure on the plantar area.[10] These changes result in disequilibrium between the intrinsic and extrinsic muscles of the feet and the involved ligamentous structures, that is generally believed to be the etiology of HV.[11]

The mean BMI of the respondents in this study was in the overweight category at 23± 1.6 kg/m^2. In this connection, the study of Asih et al. found that women using high-heeled shoes also had a BMI in the overweight category (45.2%).[12] A study conducted in Korea stated that a high BMI was significantly associated with the occurrence of HV.[13]. This agrees with the study conducted by Pratiwi et al., stating that BMI is an external factor of HV occurrence, where overweight BMI may counteract the function of the arch of the foot because of increases in the pressure on the sole, thereby causing HV.[14] Excessive BMI along with other external factors, such as the use of high heeled shoes, causes

pressure on the abductor muscles, resulting in the valgus position.[14]

The mean duration of use of high-heeled shoes in the present study was 8 hours per day. The study by Soemarko et al. stated that in 94% of cases, the most frequent use of high-heeled shoes per day was >7.5 hours.[2] The duration of use of high-heeled shoes of > 4 hours per day is an extrinsic factor for the occurrence of HV, because it may cause micro-traumas during work, that may become a permanent injury, thereby resulting in deformity.[15]

The mean length of employment with the daily use of high-heeled shoes during work was 60 months. The study conducted by Perera stated that women with a length of employment of >4 years while using high-heeled shoes in daily life, are at 5.2 times higher risk for having HV, in comparison with women with a length of employment of <4 years, because of repeated trauma and increased pressure on the metatarsals.[10]

The results of the present study show a significant relationship between the use of high-heeled shoes and HV incidence, at p=<0.000. Interestingly, the study by Soemarko also showed a similar relationship between the use of high-heeled shoes and HV incidence. The incidence of HV increases 2.77 times in women using high-heeled shoes with narrow toe box.[2] The study by Perera reported that the use of high-heeled shoes increases the pressure on the first metatarsal and the pressure on the frontal part of the feet and the spaces between the toes, that increases with the height of the heel, in comparison with flat-heeled shoes.[10] The study of Menz et al. also reported similar results in that there is a significant relationship between the use of a narrow toe box on high-heeled shoes and HV incidence at p= 0.003, where respondents using high-heeled shoes with narrow toe box have a 2.7 higher probability of HV than do respondents using flat-heeled shoes.[6] The use of shoes with narrow toe box causes the great toe to receive more pressure and may cause the phalanges of the big toe or hallux to turn into hallux valgus.[16] The results of the present study showed that the use of high-heeled shoes as the main pair of shoes that are used daily by female employees is the causative factor for HV, with an HV incidence of 90% in afore-mentioned females. In summary, there was a significant relationship between the use of high-heeled shoes and HV incidence and between narrow toe box in high-heeled shoes and HV incidence. The results of the present study are expected to become a reference on the importance of preventive measures by increasing the awareness of women using high-heeled shoes to pay more attention to the health of their feet, while with appropriate treatment it is expected that the HV deformity does not increase in severity.

Acknowledgment

The investigators wish to express their gratitude to the management of Bank BTN Cikokol Tangerang, Jakarta, Indonesia, who allowed the investigators to conduct the present study.

References

1. Wulan AJ, Rahayu A. The health risks of wearing high heeled shoes for the legs. Majority. 2016;5(3):22–7.
2. Soemarko DS, Rahmasari F, Fitriani DY. Hallux valgus as an occupational disease among Indonesian female workers : a study using seven steps of occupational diagnosis approach hallux valgus. eJKI. 2019;7(3):190–4.
3. Soemarko DS, Rahmasari F, Kamal AF. Hallux valgus among sales promotion women wearing high heels in a department store. J Orthop Surg. 2019;27(1):1–6.
4. Dufour AB, Casey VA, Golightly YM, Hannan MT. Characteristics associated with hallux valgus in a population-based study of older adults : the Framingham Foot Study.

Arthritis Care Res. 2015;66(12):1880–6.
5. Ray JJ, Friedmann AJ, Hanselman AE, Vaida J, Dayton PD, Hatch DJ, et al. Hallux valgus. Foot&Ankle Orthop. 2019;4(2):1–12.
6. Menz HB, Roddy E, Marshall M, Thomas MJ, Rathod T, Peat GM, et al. Epidemiology of shoe wearing patterns over time in older women : associations with foot pain and hallux valgus. J Gerontol Med Sci. 2016;71(12):1682–7.
7. Nakao H, Imaoka M, Hida M, Imai R, Nakamura M, Matsumoto K. Determination of individual factors associated with hallux valgus using SVM-RFE. BMC Musculoskelet Disord. 2023;24(534):1–7.
8. Okawa Y, Mitsuhashi T. The Asia-Pacific body mass index classification and new-onset chronic kidney disease in non-diabetic Japanese adults : a community-based longitudinal study from 1998 to 2023. Biomedicines. 2025;13(373):1–14.
9. Palomo-López P, Becerro-de-Bengoa-Vallejo R, Losa-Iglesias ME, Rodríguez-Sanz D, Calvo-Lobo C, López-López D. Impact of hallux valgus related of quality of life in women. Int Wound J. 2017;14:782–5.
10. Perera AM, Orth F, Mason L, Eng M, Stephens MM. The pathogenesis of hallux valgus. J Bone Jt Surg Am. 2011;93:1650–61.
11. Fraissler L, Konrads C, Hoberg M, Rudert M, Walcher M. Foot & ankle treatment of hallux valgus deformity. EOR. 2016;1(8):295-302.
12. Asih NKAP, Juhanna IV, Winaya IMN TS. Prevalence of hallux valgus in teachers and employees at Dalung Tourism Vocational High School in Bandung. MIFI. 2020;8(2):27–31.
13. Cho NH, Kim S, Kwon DJ, Kim HA. The prevalence of hallux valgus and its association with foot pain and function in a rural Korean community. J Bone Jt Surg Br. 2009;91:494–8.
14. Pratiwi GA, Winaya IMN PD. Hubungan antara berdiri lama terhadap terjadinya kejadian hallux valgus pada pramuniaga [Relationship between prolonged standing and incidence of hallux valgus in saleswomen]. MIFI. 2018;6(2):11–4. Indonesian.
15. Joseph TN, Mroczek KJ. Decision making in the treatment of hallux valgus. Bull NYU Hosp Jt Dis. 2007;65(1):19–23.
16. Okuda H, Juman S, Ueda A, Miki T, Shima M. Factors related to prevalence of hallux valgus in female university students : a cross-sectional study. J Epidemiol. 2014;24(3):200–8.

The use of high heels causes Hallux falgus in women aged 20-40 years

ORIGINALITY REPORT

23%
SIMILARITY INDEX

PRIMARY SOURCES

1	Dewi S Soemarko, Fita Rahmasari, Achmad Fauzi Kamal, Sigit Daru Cahayadi, Herqutanto. "Hallux valgus among sales promotion women wearing high heels in a department store", Journal of Orthopaedic Surgery, 2019 Crossref	52 words — 2%
2	Aisha Farhana, Yusuf Saleem Khan, Abdullah Alsrhani, Emad Manni et al. "Antioxidant and Prooxidant Functions of Carotenoids in Human Health: Trigger Factors, Mechanism and Application", IntechOpen, 2025 Crossref	42 words — 2%
3	Aulia Miladitiya, Achmad Zulfa Juniarto, Annta Kern Nugrohowati, Tri Indah Winarni. "The Role of Body Mass Index, Advanced Age, and Low Educational Attainment in Mild Cognitive Impairment among the Older Adult Population: A Study in a Rural Area in Indonesia", Journal of Nutrition in Gerontology and Geriatrics, 2023 Crossref	32 words — 1%
4	media.neliti.com Internet	31 words — 1%
5	academic.oup.com Internet	27 words — 1%
6	www.mdpi.com Internet	27 words — 1%

7	jpsr.pharmainfo.in Internet	23 words	1%
8	www.imj.com.pk Internet	22 words	1%
9	Mosab Amoudi. "Biomechanical changes in hallux valgus in running conditions: a systematic scoping re-view", Palestinian Medical and Pharmaceutical Journal, 2022 Crossref	19 words	1%
10	Nguyen, U.S.D.T.. "Factors associated with hallux valgus in a population-based study of older women and men: the MOBILIZE Boston Study", Osteoarthritis and Cartilage, 201001 Crossref	19 words	1%
11	eprajournals.com Internet	17 words	1%
12	mdpi-res.com Internet	16 words	1%
13	"Foot and Ankle Disorders", Springer Science and Business Media LLC, 2022 Crossref	15 words	1%
14	Borchgrevink, Grethe E., Annja T. Viset, Eivind Wits, Berit Schei, and Olav A. Foss. "Does the use of high-heeled shoes lead to fore-foot pathology? A controlled cohort study comprising 197 women", Foot and Ankle Surgery, 2015. Crossref	14 words	1%
15	www.researchgate.net Internet	14 words	1%
16	www.worldwidejournals.com Internet	14 words	1%

17	en.wikipedia.org Internet	13 words — 1%
18	scholar.archive.org Internet	13 words — 1%
19	worldwidescience.org Internet	11 words — < 1%
20	sid.ir Internet	10 words — < 1%
21	www.tevak.org Internet	10 words — < 1%
22	G. Colò, M. Leigheb, M. F. Surace, F. Fusini. "The efficacy of shoes modification and orthotics in hallux valgus deformity: a comprehensive review of literature", MUSCULOSKELETAL SURGERY, 2024 Crossref	9 words — < 1%
23	core.ac.uk Internet	9 words — < 1%
24	jfootankle.com Internet	9 words — < 1%
25	www.informaticsjournals.com Internet	9 words — < 1%
26	www.med.kobe-u.ac.jp Internet	9 words — < 1%
27	www.tandfonline.com Internet	9 words — < 1%
28	"Evidence-Based Bunion Surgery", Springer Science and Business Media LLC, 2018	8 words — < 1%

Crossref

29	dergipark.org.tr Internet	8 words — < 1%
30	dokumen.pub Internet	8 words — < 1%
31	lermagazine.com Internet	8 words — < 1%
32	www.scielo.br Internet	8 words — < 1%

EXCLUDE QUOTES	ON	EXCLUDE SOURCES	< 8 WORDS
EXCLUDE BIBLIOGRAPHY	ON	EXCLUDE MATCHES	OFF

Bukti korespondensi jurnal IJMBS:

Bukti submission :

[IJMBS] Submission Acknowledgement

IJMBS

Puspalini Puspalini

Thank you for submitting the manuscript, "THE USE OF HIGH HEELS CAUSES HALLUX VALGUS IN WOMEN AGED 20-40 YEARS -" to International Journal of Medical and Biomedical Studies. With the online journal management system that we are using, you will be able to track its progress through the editorial process by logging in to the journal web site.

Submission URL: https://www.ijmbs.info/ijmbs/index.php/ijmbs/authorDashboard/submission/1234
Username: puspalini

If you have any questions, please contact me. Thank you for considering this journal as a venue for your work.

IJMBS

International Journal of Medical and Biomedical Studies

Bukti copyright transfer dan permintaan pembayaran :

editor ijmbs
to me

http://www.ijmbs.info
International Online and Print Journal
NLM - CATALOG (National Library of Medicine ID: 101738825)
Index Copernicus Value 2024: 76.03
International Committee of Medical Journal Editors (ICMJE)

Acceptance letter to Author

MANUSCRIPT NO: ***3294***
TITLE: THE USE OF HIGH HEELS CAUSES HALLUX VALGUS IN WOMEN AGED 20-40 YEARS
AUTHOR(S): Syifa Nurinda Pramesti[1],Puspurini[2*]

Dear Author,

The Editorial Team of **International Journal of Medical and Biomedical Studies (IJMBS)**, is pleased to inform you that your manuscript as mentioned above has been accepted for the publication and will appear in the **Volume 10 and Issue 3 of IJMBS- 2026; 10(3)**

Best regards,
International Journal of Medical and Biomedical Studies (IJMBS)
Call + WhatsApp: +91 - 9680566708

2 Attachments • Scanned by Gmail Add all to Drive

author copy 3.pdf

COPYRIGHT IJMB...

http://www.ijmbs.info
International Online and Print Journal
NLM - CATALOG (National Library of Medicine ID: 101738825)
Index Copernicus Value 2024: 76.03
International Committee of Medical Journal Editors (ICMJE)

Acceptance letter to Author

MANUSCRIPT NO: ***3294***
TITLE: THE USE OF HIGH HEELS CAUSES HALLUX VALGUS IN WOMEN AGED 20-40 YEARS
AUTHOR(S): Syifa Nurinda Pramesti[1],Pusparini[2*]

Dear Author,

The Editorial Team of **International Journal of Medical and Biomedical Studies (IJMBS)**, is pleased to inform you that your manuscript as mentioned above has been accepted for the publication and will appear in the **Volume 10 and Issue 3 of IJMBS- 2026; 10(3)**

Best regards,
International Journal of Medical and Biomedical Studies (IJMBS)
Call + WhatsApp : +91 - 9680566708

Bukti galley proof :

editor ijmbs

to me

DEAR AUTHOR KINDLY FIND OUT ATTACHMENT COPY

THANK YOU

On Mon, Jun 22, 2026 at 6:42 PM editor ijmbs <editorijmbs.info@gmail.com> wrote:

http://www.ijmbs.info
International Online and Print Journal
NLM - CATALOG (National Library of Medicine ID: 101738825)
Index Copernicus Value 2024: 76.03
International Committee of Medical Journal Editors (ICMJE)

Acceptance letter to Author

MANUSCRIPT NO: ***3294***
TITLE: THE USE OF HIGH HEELS CAUSES HALLUX VALGUS IN WOMEN AGED 20-40 YEARS
AUTHOR(S): Syifa Nurinda Pramesti[1],Puspurini[2*]

Dear Author,

The Editorial Team of **International Journal of Medical and Biomedical Studies (IJMBS),** is pleased to inform you that your manuscript as mentioned above has been accepted for the publication and will appear in the **Volume 10 and Issue 3 of IJMBS- 2026; 10(3)**

Best regards,
International Journal of Medical and Biomedical Studies (IJMBS)
Call + WhatsApp : 091 - 9680566708

2 Attachments • Scanned by Gmail ⓘ Add all to Drive

2 Attachments • Scanned by Gmail ⓘ Add all to Drive


galley proof.docx


galley proof.pdf

Pusparini Pusparini <pusparini@trisakti.ac.id>
to editor

Dear Editor
We have already read carefully at the galley proof.
There are a few corrections in the introduction section.
There were no need space before the citation number 1.

sincerely
Pusparini
Corresponding author

•••

One attachment • Scanned by Gmail ⓘ Add to Drive


galley proof.docx

editor ijmbs
to me

DEAR AUTHOR KINDLY FIND OUT ARTICLE FINAL COPY

THANK YOU

UNIVERSITAS TRISAKTI
"Is a one stop learning for sustainable development"
Kampus A, Jl. Kyai Tapa No.1, Grogol
Jakarta Barat 11440 - INDONESIA
www.trisakti.ac.id
(t) +62-21.566 3232, (f) +62-21.567 3001

final.pdf