













Trend and Issue in Medical Surgical Nursing dan Journal appraisal

Erna Rochmawati, PhD Fahni Haris, PhD

Outline



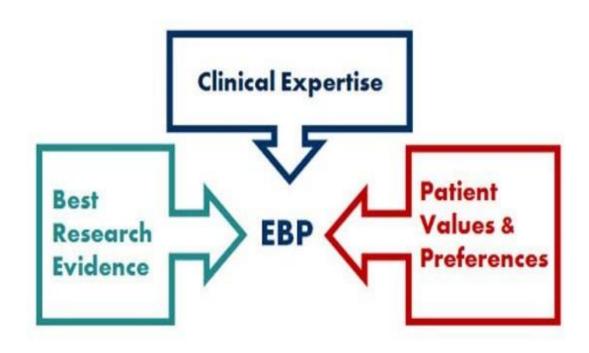
Journal appraisal:

- literature search
- PICO
- Journal appraisal



JOURNAL APPRAISAL

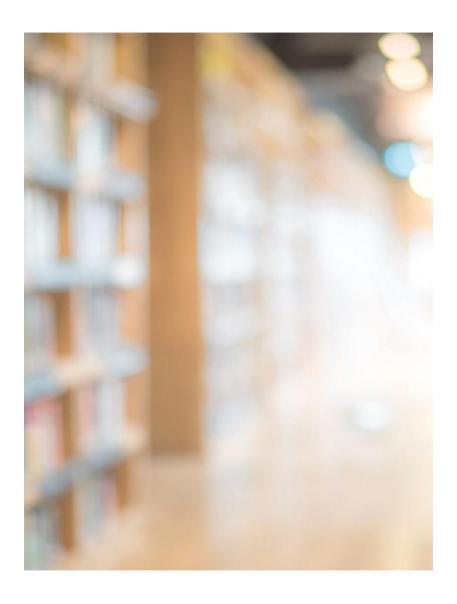
Evidence based decision making





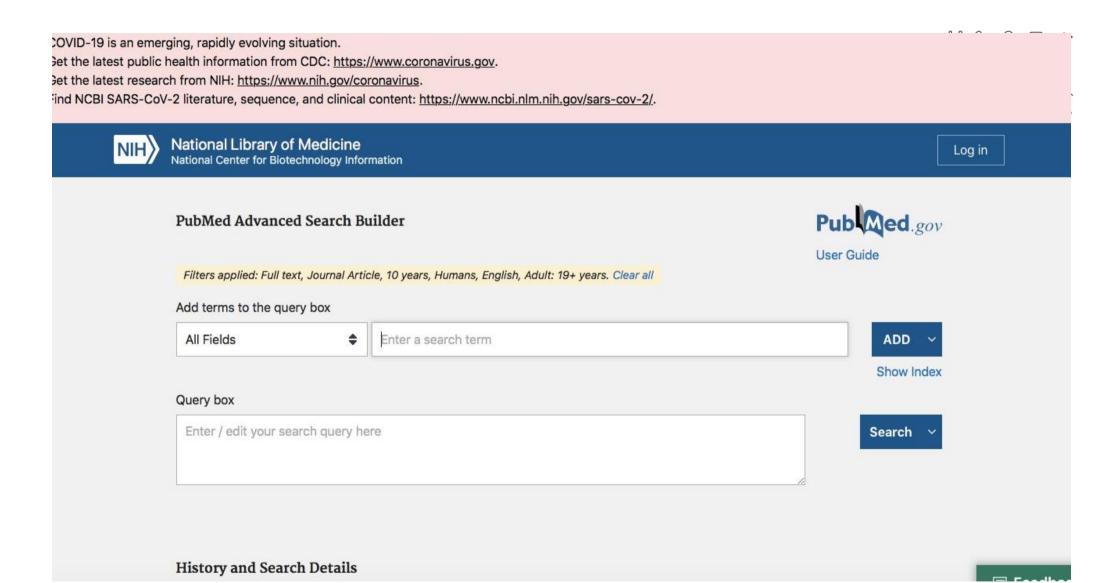


How to search?



Databases:

- PubMed*
- Scopus*
- Google Scholar*
- Cochrane*
- EBSCOhost
- CINAHL
- Psyinfo





Search Sources Lists SciVal







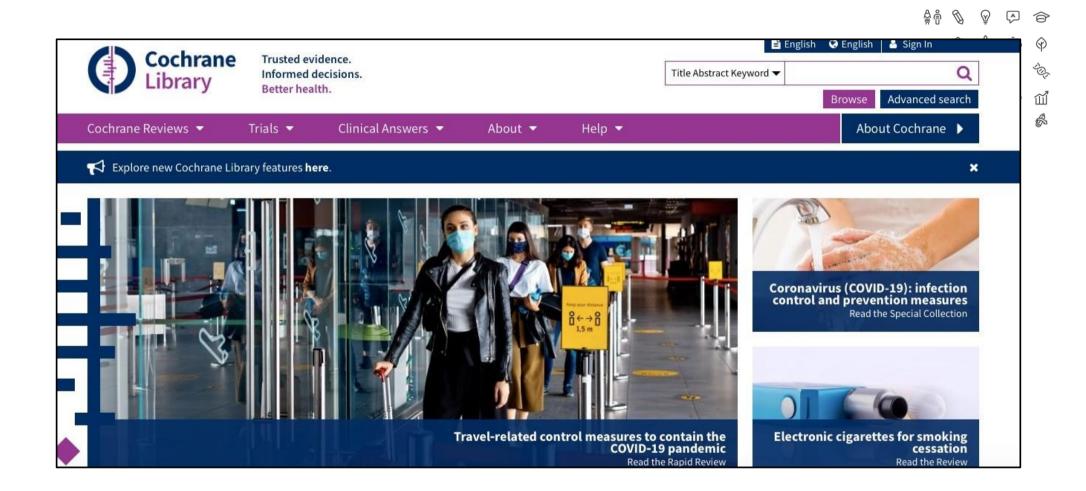






Compare sources >







Telaah Jurnal PICO



Population

Intervention

Comparator

Outcome



Population

- The most important characteristics:
- Demographic factors (e.g. age, gender, ethnicity)
- Socioeconomic factors
- The settings (e.g. hospitals, community, etc)

Intervention

- primary intervention of interest
- Comparator (control group)
- passive (placebo, no treatment, standard care)
- active (variation of intervention, a drug, a kind of therapy)

Comparator

- o passive (placebo, no treatment, standard care)
- o active (variation of intervention, a drug, a kind of therapy)

Outcomes

- ✓ identify the primary outcome(s) in order to reach a clinically relevant conclusion
- √ Secondary outcomes may required
- ✓ Outcomes should be stated neutrally, covering benefits and adverse effects
- ✓ Consider how the type and timing of outcome measurements impacts on outcome measurement





Fahni Haris, MNS^{a,b}, Yih-Kuen Jan, PhD^o, Ben-Yi Liau, PhD^d, Chang-Wei Hsieh, PhD^o, Wei-Cheng Shen, PhD^f, Chien-Cheng Tai, PhD^g, Yin-Hwa Shih, PhD^g, Chi-Wen Lung, PhD^{c,h,*} (5)

Abstract

Background: Exercise reduces chronic complications in individuals with diabetes and peripheral vascular diseases. In clinical practice, the use of air insole may reduce peak plantar pressure (PPP), and risk for diabetic foot ulcers (DFUs). However, there is no guideline on selecting air insole pressure for effectively reducing PPP. Therefore, this study aimed to investigate the effects of different air insole pressure on PPP at different walking durations.

Methods: We tested 13 participants using repeated measures study design, including 3 air insole pressures (80, 160, and 240mm Hg) and 2 walking durations (10 and 20 minutes) for 6 walking conditions. PPP values at the first toe, first metatarsal head, and second metatarsal head were calculated.

Results: The one-way ANOVA showed significant pairwise differences of PPP at 20 minutes duration in the first metatarsal head between 80 and 240 mm Hg (P = .007) and between 160 and 240 mm Hg (P = .038); in the second metatarsal head between 80 and 240 mm Hg (P = .043). The paired t test confirmed that walking duration significantly has lower PPP at 10 minutes than 20 minutes with 240 mm Hg air insole in the first metatarsal head (P = .012) and the second metatarsal head (P = .027).

Conclusion: People at risk of foot ulcers are suggested to wear shoes with 80 mm Hg of air insole for reducing PPP in the first metatarsal head and the second metatarsal head. Moreover, people may avoid wearing the stiffer insole (240 mm Hg) for more than 20 minutes.

Abbreviations: DFUs = diabetic foot ulcers, DM = diabetes mellitus, PPP = peak plantar pressure.

Keywords: air insole, diabetic foot ulcers, forefoot, insole stiffness, walking duration

1. Introduction

Diabetes mellitus (DM) has become a significant public health problem worldwide, leading to morbidity, disability, and mortality. In The International Diabetes Federation stated that the global prevalence of DM reached 537 million adults aged 20 to 79 years in 2021, which is estimated to rise to 643 million by 2030. In International Diabetes Federation also indicated that \$673 billion was spent on treating DM and its related

complications in 2015, which increased to almost \$1 trillion in 2021. [2,3] Prevention of DM remains a primary concern around the world.

Various preventive interventions of DM have been proposed, such as a healthy diet, medications, and exercise to control blood glucose levels.^[4] Exercise may promote health and reduce the risk of chronic complications in DM people.^[5] It has been demonstrated that aerobic or resistance exercise is the most

Science & Information Engineering, Asia University, Taichung, Taiwan, ¹
Department of Digital Media Design, Asia University, Taichung, Taiwan, ² School of
Public Health, Taipei Medical University, Taipei, Taiwan, ³



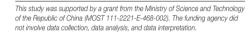
The effects of different inner pressures of air insoles and walking durations on peak plantar pressure

Population?

Intervention?

Comparator??

Outcomes?







Fahni Haris, MNS^{a,b}, Yih-Kuen Jan, PhD^c, Ben-Yi Liau, PhD^d, Chang-Wei Hsieh, PhD^e, Wei-Cheng Shen, PhD^f, Chien-Cheng Tai, PhD^g, Yin-Hwa Shih, PhD^g, Chi-Wen Lung, PhD^{c,h,*}

Abstract

Background: Exercise reduces chronic complications in individuals with diabetes and peripheral vascular diseases. In clinical practice, the use of air insole may reduce peak plantar pressure (PPP), and risk for diabetic foot ulcers (DFUs). However, there is no guideline on selecting air insole pressure for effectively reducing PPP. Therefore, this study aimed to investigate the effects of different air insole pressure on PPP at different walking durations.

Methods: We tested 13 participants using repeated measures study design, including 3 air insole pressures (80, 160, and 240mm Hg) and 2 walking durations (10 and 20 minutes) for 6 walking conditions. PPP values at the first toe, first metatarsal head, and second metatarsal head were calculated.

Results: The one-way ANOVA showed significant pairwise differences of PPP at 20 minutes duration in the first metatarsal head between 80 and 240 mm Hg (P = .007) and between 160 and 240 mm Hg (P = .038); in the second metatarsal head between 80 and 240 mm Hg (P = .043). The paired t test confirmed that walking duration significantly has lower PPP at 10 minutes than 20 minutes with 240 mm Hg air insole in the first metatarsal head (P = .012) and the second metatarsal head (P = .027).

Conclusion: People at risk of foot ulcers are suggested to wear shoes with 80 mm Hg of air insole for reducing PPP in the first metatarsal head and the second metatarsal head. Moreover, people may avoid wearing the stiffer insole (240 mm Hg) for more than 20 minutes.

Abbreviations: DFUs = diabetic foot ulcers, DM = diabetes mellitus, PPP = peak plantar pressure.

Keywords: air insole, diabetic foot ulcers, forefoot, insole stiffness, walking duration

1. Introduction

Diabetes mellitus (DM) has become a significant public health problem worldwide, leading to morbidity, disability, and mortality. In The International Diabetes Federation stated that the global prevalence of DM reached 537 million adults aged 20 to 79 years in 2021, which is estimated to rise to 643 million by 2030. In International Diabetes Federation also indicated that \$673 billion was spent on treating DM and its related

complications in 2015, which increased to almost \$1 trillion in 2021. [2,3] Prevention of DM remains a primary concern around the world.

Various preventive interventions of DM have been proposed, such as a healthy diet, medications, and exercise to control blood glucose levels.^[4] Exercise may promote health and reduce the risk of chronic complications in DM people.^[5] It has been demonstrated that aerobic or resistance exercise is the most

Science & Information Engineering, Asia University, Taichung, Taiwan, ¹
Department of Digital Media Design, Asia University, Taichung, Taiwan, ² School of
Public Health, Taipei Medical University, Taipei, Taiwan, ³



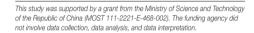
The effects of different inner pressures of air insoles and walking durations on peak plantar pressure

Population? not implicit in the title

Intervention?

Comparator?

Outcomes?







Fahni Haris, MNS^{a,b}, Yih-Kuen Jan, PhD^o, Ben-Yi Liau, PhD^d, Chang-Wei Hsieh, PhD^o, Wei-Cheng Shen, PhD^f, Chien-Cheng Tai, PhD^g, Yin-Hwa Shih, PhD^g, Chi-Wen Lung, PhD^{c,h,*} (5)

Abstract

Background: Exercise reduces chronic complications in individuals with diabetes and peripheral vascular diseases. In clinical practice, the use of air insole may reduce peak plantar pressure (PPP), and risk for diabetic foot ulcers (DFUs). However, there is no guideline on selecting air insole pressure for effectively reducing PPP. Therefore, this study aimed to investigate the effects of different air insole pressure on PPP at different walking durations.

Methods: We tested 13 participants using repeated measures study design, including 3 air insole pressures (80, 160, and 240mm Hg) and 2 walking durations (10 and 20 minutes) for 6 walking conditions. PPP values at the first toe, first metatarsal head, and second metatarsal head were calculated.

Results: The one-way ANOVA showed significant pairwise differences of PPP at 20 minutes duration in the first metatarsal head between 80 and 240 mm Hg (P = .007) and between 160 and 240 mm Hg (P = .038); in the second metatarsal head between 80 and 240 mm Hg (P = .043). The paired t test confirmed that walking duration significantly has lower PPP at 10 minutes than 20 minutes with 240 mm Hg air insole in the first metatarsal head (P = .012) and the second metatarsal head (P = .027).

Conclusion: People at risk of foot ulcers are suggested to wear shoes with 80 mm Hg of air insole for reducing PPP in the first metatarsal head and the second metatarsal head. Moreover, people may avoid wearing the stiffer insole (240 mm Hg) for more than 20 minutes.

Abbreviations: DFUs = diabetic foot ulcers, DM = diabetes mellitus, PPP = peak plantar pressure.

Keywords: air insole, diabetic foot ulcers, forefoot, insole stiffness, walking duration

1. Introduction

Diabetes mellitus (DM) has become a significant public health problem worldwide, leading to morbidity, disability, and mortality. In the International Diabetes Federation stated that the global prevalence of DM reached 537 million adults aged 20 to 79 years in 2021, which is estimated to rise to 643 million by 2030. In International Diabetes Federation also indicated that \$673 billion was spent on treating DM and its related

Various preventive interventions of DM have been proposed, such as a healthy diet, medications, and exercise to control blood glucose levels.^[4] Exercise may promote health and reduce the risk of chronic complications in DM people.^[5] It has been demonstrated that aerobic or resistance exercise is the most

complications in 2015, which increased to almost \$1 trillion in 2021, [2,3] Prevention of DM remains a primary concern around the world.

Science & Information Engineering, Asia University, Taichung, Taiwan, '
Department of Digital Media Design, Asia University, Taichung, Taiwan, '' School of
Public Health, Taipei Medical University, Taipei, Taiwan, '' Department of Creative



The effects of different inner pressures of air insoles and walking durations on peak plantar pressure

Population? - not implicit in the title Intervention? different inner pressures of air insoles and walking durations Comparator?

Outcomes?





Fahni Haris, MNSab, Yih-Kuen Jan, PhDc, Ben-Yi Liau, PhDd, Chang-Wei Hsieh, PhDc, Wei-Cheng Shen, PhDf Chien-Cheng Tai, PhDg. Yin-Hwa Shih, PhDg. Chi-Wen Lung, PhDg.h,* 6

Background: Exercise reduces chronic complications in individuals with diabetes and peripheral vascular diseases. In clinical practice, the use of air insole may reduce peak plantar pressure (PPP), and risk for diabetic foot ulcers (DFUs). However, there is no quideline on selecting air insole pressure for effectively reducing PPP. Therefore, this study aimed to investigate the effects of different air insole pressure on PPP at different walking durations.

Methods: We tested 13 participants using repeated measures study design, including 3 air insole pressures (80, 160, and 240 mm Hg) and 2 walking durations (10 and 20 minutes) for 6 walking conditions, PPP values at the first toe, first metatarsal head, and second metatarsal head were calculated.

Results: The one-way ANOVA showed significant pairwise differences of PPP at 20 minutes duration in the first metatarsal head between 80 and 240 mm Hg (P = .007) and between 160 and 240 mm Hg (P = .038); in the second metatarsal head between 80 and 240 mm Hg (P = .043). The paired t test confirmed that walking duration significantly has lower PPP at 10 minutes than 20 minutes with 240 mm Hg air insole in the first metatarsal head (P = .012) and the second metatarsal head (P = .027).

Conclusion: People at risk of foot ulcers are suggested to wear shoes with 80 mm Hg of air insole for reducing PPP in the first metatarsal head and the second metatarsal head. Moreover, people may avoid wearing the stiffer insole (240 mm Hg) for more

Abbreviations: DFUs = diabetic foot ulcers, DM = diabetes mellitus, PPP = peak plantar pressure.

Keywords: air insole, diabetic foot ulcers, forefoot, insole stiffness, walking duration

1. Introduction

Diabetes mellitus (DM) has become a significant public health problem worldwide, leading to morbidity, disability, and mortality.[1] The International Diabetes Federation stated that the global prevalence of DM reached 537 million adults aged 20 to 79 years in 2021, which is estimated to rise to 643 million by 2030.[2] International Diabetes Federation also indicated that \$673 billion was spent on treating DM and its related 2021. [2,3] Prevention of DM remains a primary concern around the world.

Various preventive interventions of DM have been proposed, such as a healthy diet, medications, and exercise to control blood glucose levels.[4] Exercise may promote health and reduce the risk of chronic complications in DM people.^[5] It has been demonstrated that aerobic or resistance exercise is the most

complications in 2015, which increased to almost \$1 trillion in

Science & Information Engineering, Asia University, Taichung, Taiwan, Department of Digital Media Design, Asia University, Taichung, Taiwan, 9 School of Public Health, Taipei Medical University, Taipei, Taiwan, h Department of Creative



The effects of different inner pressures of air insoles and walking durations on peak plantar pressure

Population? - not implicit in the title Intervention? different inner pressures of air insoles and walking durations Comparator? - not implicit in the title **Outcomes?**





Fahni Haris, MNSab, Yih-Kuen Jan, PhDc, Ben-Yi Liau, PhDd, Chang-Wei Hsieh, PhDc, Wei-Cheng Shen, PhDf, Chien-Cheng Tai, PhDg. Yin-Hwa Shih, PhDg. Chi-Wen Lung, PhDg.h,* 6

Background: Exercise reduces chronic complications in individuals with diabetes and peripheral vascular diseases. In clinical practice, the use of air insole may reduce peak plantar pressure (PPP), and risk for diabetic foot ulcers (DFUs). However, there is no quideline on selecting air insole pressure for effectively reducing PPP. Therefore, this study aimed to investigate the effects of different air insole pressure on PPP at different walking durations.

Methods: We tested 13 participants using repeated measures study design, including 3 air insole pressures (80, 160, and 240 mm Hg) and 2 walking durations (10 and 20 minutes) for 6 walking conditions, PPP values at the first toe, first metatarsal head, and second metatarsal head were calculated.

Results: The one-way ANOVA showed significant pairwise differences of PPP at 20 minutes duration in the first metatarsal head between 80 and 240 mm Hg (P = .007) and between 160 and 240 mm Hg (P = .038); in the second metatarsal head between 80 and 240 mm Hg (P = .043). The paired t test confirmed that walking duration significantly has lower PPP at 10 minutes than 20 minutes with 240 mm Hg air insole in the first metatarsal head (P = .012) and the second metatarsal head (P = .027).

Conclusion: People at risk of foot ulcers are suggested to wear shoes with 80 mm Hg of air insole for reducing PPP in the first metatarsal head and the second metatarsal head. Moreover, people may avoid wearing the stiffer insole (240 mm Hg) for more

Abbreviations: DFUs = diabetic foot ulcers, DM = diabetes mellitus, PPP = peak plantar pressure.

Keywords: air insole, diabetic foot ulcers, forefoot, insole stiffness, walking duration

1. Introduction

Diabetes mellitus (DM) has become a significant public health problem worldwide, leading to morbidity, disability, and mortality.[1] The International Diabetes Federation stated that the global prevalence of DM reached 537 million adults aged 20 to 79 years in 2021, which is estimated to rise to 643 million by 2030.[2] International Diabetes Federation also indicated that \$673 billion was spent on treating DM and its related complications in 2015, which increased to almost \$1 trillion in 2021. [2,3] Prevention of DM remains a primary concern around the world.

Various preventive interventions of DM have been proposed, such as a healthy diet, medications, and exercise to control blood glucose levels.[4] Exercise may promote health and reduce

the risk of chronic complications in DM people.^[5] It has been demonstrated that aerobic or resistance exercise is the most

Science & Information Engineering, Asia University, Taichung, Taiwan, Department of Digital Media Design, Asia University, Taichung, Taiwan, 9 School of Public Health, Taipei Medical University, Taipei, Taiwan, h Department of Creative



The effects of different inner pressures of air insoles and walking durations on peak plantar pressure

Population? - not implicit in the title Intervention? different inner pressures of air insoles and walking durations Comparator? - not implicit in the title Outcomes? Peak plantar pressure

THE EFFECT OF INTRADIALYTIC EXERCISE AND SLOW DEEP BREATHING ON FATIGUE IN PATIENTS WITH CHRONIC KIDNEY DISEASE WHO ARE ON HEMODIALYSIS AT HOPE AND PRAYER HOSPITAL BENGKULU CITY IN 2024

ABSTRACT

Background: Fatigue is one of the problems that occurs in Chronic kidney disease (CKD) patients undergoing hemodialysis. The side effects caused in CKD patients undergoing hemodialysis therapy experience fatigue as much as 44.7% - 97%. Fatigue is a subjective feeling of discomfort in the form of fatigue, weakness and decreased energy. Therefore it is important to overcome this fatigue. One way to overcome fatigue is to provide a combination therapy of intradialitic exercise and slow deep breathing.

Purpose of the study: this is to see if the combination of intradialytic exercise and slow deep breathing has an influence on fatigue in CKD patients who are being hemodialyzed at RSHD, Bengkulu city.

Research method: This type of research will be conducted using quantitative research with a quasi-experimental design with a total sample of 33 people. The sample was selected using purposive sampling technique. The questionnaire used was functional assessment chronic illness therapy (FACIT) to assess the level of fatigue.

Research results: statistical tests obtained the average value of fatigue before 24.52 and after 27.42. Using the Wilcoxon test shows a p value of 0.000 (p value $\leq \alpha$ 0.05) which indicates that there is an effect of intradialytic exercise and slow deep breathing on fatigue in CKD patients who are on hemodialysis. Thus intradialytic exercise and slow deep breathing provide benefits in overcoming fatigue in CKD patients.

Conclusion: There is an effect of intradialytic exercise and slow deep breathing on fatigue. It is strongly recommended that patients with fatigue problems do intradialytic exercise and slow deep breathing interventions during hemodialysis.

Keywords: intradialytic exercise, slow deep breathing, CKD, fatigue, hemodialysis.

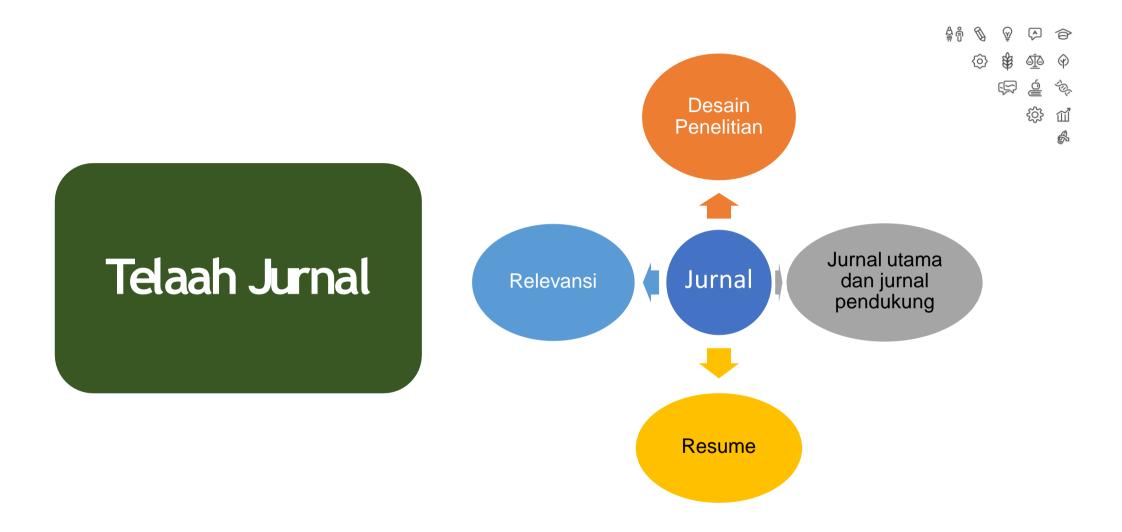
INTRODUTION

The number of non-communicable disease (NCD) cases seems to be increasing both in the country and worldwide. Non-communicable diseases kill 41 million people each year, equivalent to 74% of all deaths globally.[1] One of several non-communicable diseases that have become a global health problem is CKD. CKD is a condition of kidney damage, both functional and structural, which can be indicated by pathology abnormalities and by the appearance of signs of kidney damage such as urine composition abnormalities, with or without a decrease in the Glomerular Filtration Rate (GFR) for 3



The effect of intradialytic exercise and slow deep breathing on fatigue in patients with chronic kidney disease who are on hemodialysis at hope and prayer hospital, Bengkulu city in 2024

PICO?







- Level 1.a Systematic review of Randomized Controlled Trials (RCTs)
- Experimental Level 1.b Systematic review of RCTs and other study designs
 - Level 1.c RCT
 - Level 1.d Pseudo-RCTs

Quasi-Experimental Studies

- Level 2.a Systematic review of quasi-experimental studies
- Level 2.b Systematic review of quasi-experimental and other lower study designs
- Level 2.c Quasi-experimental prospectively controlled study
- Level 2.d Pretest posttest or historic/retrospective control group study

Observational Analytical Studies

- Level 3.a Systematic review of comparable cohort studies
- Level 3.b Systematic review of comparable cohort and other lower study designs
- Level 3.c Cohort study with control group
- Level 3.d Case controlled study
- Level 3.e Observational study without a control group

Observational Descriptive Studies

- Level 4.a Systematic review of descriptive studies
- Level 4.b Cross-sectional study
- Level 4.c Case series
- Level 4.d Case study

Expert Opinion

- Level 5.a Systematic review of expert opinion
- Level 5.b Expert consensus
- Level 5.c Bench research/ single expert opinion









Jurnal utama dan jurnal pendukung



Kesesuaian Populasi, Intervensi, Comparator, Outcome

pendukung

Jurnal utama	Systematic review - review	A Review of the Plantar Pressure Distribution Effects from Insole Materials and at Different Walking Speeds
Jurnal	Quasy experiment, randomized controlled	A comparison of customised and prefabricated insoles to

Quasy experiment, randomized controlled trial

A comparison of customised and prefabricated insoles to reduce risk factors for neuropathic diabetic foot ulceration: A participant-blinded randomised controlled trial

Effect of aerobic exercise (walking) training on functional status and health-related quality of life in chronic stroke survivors: A randomized controlled trial.

The epidemiology of walking for exercise: Implications for promoting activity among sedentary groups.

Resume Jurnal

- Citation
- Background
- Research questions
- Study design
- Time and setting

- Sample
- Instrument
- Procedure,
- Data analysis
- Result

Relevansi



- Apakah dapat diaplikasikan di pelayanan (rawat inap, poli)?
- Bagaimana cara mengaplikasikannya?
- Jelaskan keuntungan dan risiko jika diaplikasikan?

LET's exercise

Telaah jurnal

The effects of different inner pressures of air insoles and walking durations on peak plantar pressure			
Citation	Haris F, Jan YK, Liau BY, Hsieh CW, Shen WC, Tai CC, Shih YH, Lung CW. The effects of different inner pressures of air insoles and walking durations on peak plantar pressure. Medicine (Baltimore). 2023 Oct 27;102(43):e35704. doi: 10.1097/MD.0000000000035704. PMID: 37904356; PMCID: PMC10615489.		
Desain	True experiment - a repeated measures design		
Background	 DM menjadi concern di dunia → prevalensi meningkat DM prevention byk dlakukan → blm maksimal Berjalan → alternatif olahraga (murah) → beresiko peningkatan tekanan kaki → foot ulcer Ketebalan ideal sole sepatu → menurunkan tekanan kaki → belum banyak penelitian sol sepatu yg saya teliti 		
Research question	Penelitian ini bertujuan untuk lebih meningkatkan pemahaman kita tentang peran tekanan sol udara yang berbeda terhadap pola PPP pada individu non-diabetes yang menggunakan sol udara dan durasi berjalan yang berbeda.		
Time and setting	3 pekan, lab		

Telaah jurnal

The effects of different inner pressures of air insoles and walking durations on peak plantar pressure

Sample

13 healthy participant. (7 males and 6 females) joined this study. The demographic data of the subjects were: height, $165.8 \pm 8.4 \text{ m}$; age, $27.0 \pm 7.3 \text{ years}$; and weight, $56.0 \pm 7.9 \text{ kg}$ (mean $\pm \text{ SD}$). The right leg dominates in all subjects.

Aged between 18 and 45 years participated in this study, were recruited from university. Inclusion criteria included participants aged 18 or older, shoe sizes 41 to 42 (males) and 37 to 39 (females), and their BMI was no more than 23.0 kg/m2

with self-reported foot and health problems in

the past 3 months. Subjects were excluded if they had active foot ulcers, diabetes, vascular diseases, hypertension, and the inability to walk for 20 minutes independently.











Telaah jurnal

The effects of different inner pressures of air insoles and walking durations on peak plantar pressure

Instrument	Treadmill, shore durometer, tekscan (footprint), matlab, excel, spss
Procedure	3 pekan Participant jalan dgn kecepatan 3.6 mph (3x2 factorial) The 10 min with 80 mmHg air insole; the 20 min with 80 mmHg air insole The 10 min with 160 mmHg air insole; the 20 min with 160 mmHg air insole; The 10 min with 240 mmHg air insole; the 20 min with 240 mmHg air insole.
Data analysis	ANOVA, independent t-test, paired sample t-test for post grup yang sama
Result	Diketahui tekanan kaki (depan) dengan 6 protocol berjalan Sol sepatu lembut memiliki tekanan kaki yang lebih kecil Jika menggunakan sol yang keras, tidak direkomendasikan lebih dr 20 min berjalan





Relevansi	
Apakah dapat diaplikasikan di pelayanan (rawat inap, poli)?	Ya, dapat dilakukan di rawat inap atau rawat jalan Memerlukan biaya minimal
Bagaimana cara mengaplikasikannya?	Dapat dilakukan dengan memberikan edukasi ke keluarga cara memilih sol sepatu dengag kelembutan yang sedang
Jelaskan keuntungan dan risiko jika diaplikasikan?	Risiko; minimal Keuntungan: tekanan kaki pada orang beresiko terkena foot ulcer kemungkinan menurun