TREND Statement Checklist

Paper Section/ Topic	Item No	Descriptor	Reported on Page Number/Line Number	Reported on Section/Paragraph
Title and Abstract				
Title and Abstract	1	• Information on how unit were allocated to interventions	P1/1-3	Title: Nurses' Foot Health: Perception, Behavior, and Analysis of the Cardiovascular Effects of Different Types of Hosiery
		• Structured abstract recommended	P1/23-45	Abstract
		• Information on target population or study sample	P1/31-34	A descriptive cross-sectional study was conducted among nurses worked regular nursing shifts in a tertiary medical center in Taipei, Taiwan after obtaining ethical approval from the Institutional Review Committee.
Introduction				
Background	2	• Scientific background and explanation of rationale	P2/64-66	Lower limb blood flow and shear rate are significantly reduced during standing, which may worsen the progression of atherosclerosis.(5) With advances and developments in biotechnology in recent years, FS have been introduced, with claims of improving foot health, such as having the potential to influence balance,(6) and patients with diseases that affect foot health are known to benefit from prescribed stock footwear in terms of clinical outcomes.

		• Theories used in designing behavioral interventions	P2/56-68	CS were previously considered to be effective in improving venous return, thereby alleviating the problems caused by varicose veins. Most nurses believed that wearing CS was beneficial to their health.
Methods				
Participants	3	• Eligibility criteria for participants, including criteria at different levels in recruitment/sampling plan (e.g., cities, clinics, subjects)	P2/78-88	Method/subject
		• Method of recruitment (e.g., referral, self-selection), including the sampling method if a systematic sampling plan was implemented	P2/82-83	All participants worked regular nursing shifts in clinical practice, which involved prolonged periods of standing.
		• Recruitment setting	P2/78-88	Method/subject
		• Settings and locations where the data were collected	P2/79-80	The present study was approved by the institutional review board of a tertiary medical center in Taipei, Taiwan, with requirements for written informed consent waived.
Interventions	4	• Details of the interventions intended for each study condition and how and when they were actually administered, specifically including:	P2-3/77-122	Methods
		• Content: what was given?	P2/90-95	Methods/ Hosiery types and measurement device
		• Delivery method: how was the content given?	P3/98-100	Face-to-face interviews, 45–105 min in duration, were conducted with the enrolled participants, following semi-structured guidance with open-ended questions designed to elicit responses regarding nurses' perceptions and behaviors regarding their foot health.

		• Unit of delivery: how were the subjects grouped during delivery?	P3/105-109	In addition to the interviews, a comparative study was performed to evaluate the arterial health of those wearing FS and CS. Because cardiovascular tests were one of the main aspects of this study, all subjects were required to abstain from alcohol for > 24 h, with no strenuous exercise within 1 h of testing to maintain their heart rate and blood pressure within the normal physiological range before the trial.
		• Deliverer: who delivered the intervention?	P3/112-115	Subsequently, a rest period was instituted, after which the subjects donned test stocking 1 (either FS or CS) for 20–30 min before undergoing arterial waveform measurements associated with the intervention. Following another rest period, subjects switched to test stocking 2 (either FS or CS [i.e., other than test stocking 1]) and replicated the aforementioned procedure.
		• Setting: where was the intervention delivered?	P3/110-111	In a tranquil environment, the quality of arterial waveforms was confirmed in subjects with an operational index exceeding 90%.

		• Exposure quantity and duration: how many sessions or episodes or events were intended to be delivered? How long were they intended to last?	P3/112-116	Subsequently, a rest period was instituted, after which the subjects donned test stocking 1 (either FS or CS) for 20–30 min before undergoing arterial waveform measurements associated with the intervention. Following another rest period, subjects switched to test stocking 2 (either FS or CS [i.e., other than test stocking 1]) and replicated the aforementioned procedure. These steps collectively constituted the PWA procedure used in this study.

		• Time span: how long was it intended to take to deliver the intervention to each unit?	P3/112-114	Subsequently, a rest period was instituted, after which the subjects donned test stocking 1 (either FS or CS) for 20–30 min before undergoing arterial waveform measurements associated with the intervention.
		• Activities to increase compliance or adherence (e.g., incentives)	N/A	N/A
Objectives	5	• Specific objectives and hypotheses	P2/71-74	The primary focus of this qualitative study was to investigate nurses' awareness of foot health. Additionally, we performed a quantitative analysis to determine whether FS or CS genuinely benefited the arterial health of the nurses' feet.
Outcomes	6	• Clearly defined primary and secondary outcome measures	P4-P5/163, 182	Table 1& Table 2
		• Methods used to collect data and any methods used to enhance the quality of measurements	P3/124-130	Methods/ Data acquisition
		• Information on validated instruments such as psychometric and biometric properties	P3/124-130	Methods/ Data acquisition
Sample Size	7	• How sample size was determined and, when applicable, explanation of any interim analyses and stopping rules	N/A	N/A
Assignment Method	8	• Unit of assignment (the unit being assigned to study condition, e.g., individual, group, community)	P3/97-122	Methods/ Method and procedures
		• Method used to assign units to study conditions, including details of any restriction (e.g., blocking, stratification, minimization)	P3/78-88, 97-122	Methods/ subjects &Method and procedures
		• Inclusion of aspects employed to help minimize potential bias induced due to non-randomization (e.g., matching)	N/A	N/A
Blinding (masking)	9	• Whether or not participants, those administering the interventions, and those assessing the outcomes were blinded to study condition assignment; if so, statement regarding how the blinding was accomplished and how it was assessed.	N/A	N/A
Unit of Analysis	10	• Description of the smallest unit that is being analyzed to assess intervention effects (e.g., individual, group, or community)	P3/78-88, 97-122	Methods/ subjects &Method and procedures
		• If the unit of analysis differs from the unit of assignment, the analytical method used to account for this (e.g., adjusting the standard error estimates by the design effect or using	N/A	N/A

Statistical Methods	11	• Statistical methods used to compare study groups for primary methods outcome(s), including complex methods of correlated data	P3/132-139	Methods/ Statistical methods
		• Statistical methods used for additional analyses, such as a subgroup analyses and adjusted analysis	N/A	N/A
		• Methods for imputing missing data, if used	N/A	N/A
		• Statistical software or programs used	P3/138-139	Statistical analyses were performed using Prism, version 9 (GraphPad Inc., San Diego, CA, USA).
Results				
Participant flow	12	• Flow of participants through each stage of the study: enrollment, assignment, allocation, and intervention exposure, follow-up, analysis (a diagram is strongly recommended)	N/A	N/A
		• Enrollment: the numbers of participants screened for eligibility, found to be eligible or not eligible, declined to be enrolled, and enrolled in the study	P4/145-146	The 50 female nurses who participated in the survey worked in the intensive care unit (32%), emergency department (56%), or operating room (12%)

		• Assignment: the numbers of participants assigned to a study condition	P4/166-167	Forty-four participants exhibited no significant differences in heart rate, brachial DBP, or brachial PP between the FS and CS groups.
		• Allocation and intervention exposure: the number of participants assigned to each study condition and the number of participants who received each intervention	P4/166-167	Forty-four participants exhibited no significant differences in heart rate, brachial DBP, or brachial PP between the FS and CS groups.
		• Follow-up: the number of participants who completed the follow- up or did not complete the follow-up (i.e., lost to follow-up), by study condition	P2/80-82	Fifty female nurses participated in this study; however, during the study process, six withdrew, resulting in 44 who provided data for analysis.
		• Analysis: the number of participants included in or excluded from the main analysis, by study condition	P4/166-167	Forty-four participants exhibited no significant differences in heart rate, brachial DBP, or brachial PP between the FS and CS groups.
		• Description of protocol deviations from study as planned, along with reasons	N/A	N/A
Recruitment	13	• Dates defining the periods of recruitment and follow-up	N/A	N/A
Baseline Data	14	• Baseline demographic and clinical characteristics of participants in each study condition	P4/145-146	The 50 female nurses who participated in the survey worked in the intensive care unit (32%), emergency department (56%), or operating room (12%).
		• Baseline characteristics for each study condition relevant to specific disease prevention research	P4/146-148	Cohort characteristics included a mean (± SD) age of 42.4 ± 7 years, height 159.9 ± 4.8 cm, weight 57.2 ± 9.7 kg, and body mass index of 22.3 ± 3.3 kg/m2.
		• Baseline comparisons of those lost to follow-up and those retained, overall and by study	N/A	N/A
		• Comparison between study population at baseline and target population of interest	N/A	N/A
Baseline equivalence	15	• Data on study group equivalence at baseline and statistical methods used to control for baseline differences	N/A	N/A

Numbers analyzed	16	• Number of participants (denominator) included in each analysis for each study condition, particularly when the denominators change for different outcomes; statement of the results in absolute numbers when feasible	P5/182	Table 2 Basic demographics and hemodynamics after interventions.
		• Indication of whether the analysis strategy was “intention to treat” or, if not, description of how non-compliers were treated in the analyses	N/A	N/A
Outcomes and estimation	17	• For each primary and secondary outcome, a summary of results for each estimation study condition, and the estimated effect size and a confidence interval to indicate the precision	P5/182	Table 2 Basic demographics and hemodynamics after interventions.
		• Inclusion of null and negative findings	P5/182	Table 2 Basic demographics and hemodynamics after interventions.
		• Inclusion of results from testing pre-specified causal pathways through which the intervention was intended to operate, if any	N/A	N/A
Ancillary analyses	18	• Summary of other analyses performed, including subgroup or restricted analyses, indicating which are pre- specified or exploratory	N/A	N/A
Adverse events	19	• Summary of all important adverse events or unintended effects in each study condition (including summary measures, effect size estimates, and confidence intervals)	P5/182	Table 2 Basic demographics and hemodynamics after interventions.

DISCUSSION				
Interpretation	20	• Interpretation of the results, taking into account study hypotheses, sources of potential bias, imprecision of measures, multiplicative analyses, and other limitations or	P6-7/189-246	Discussion
		• Discussion of results taking into account the mechanism by which the intervention was intended to work (causal pathways) or alternative mechanisms or explanations	P6/210-213, 218-222	Theoretically, higher end-SBP values correspond to a higher cardiac afterload. However, in this study, subjects wearing CS exhibited longer LVET but lower end-SBP values. Nevertheless, more rigorous studies are required to characterize the causal relationship between increased LVET and decreased end-SBP. Arterial endothelial cells can influence blood pressure through increased nitric oxide synthase, cyclooxygenase, or soluble guanylyl cyclase activity, thus decreasing oxidative stress or altering endothelial cell membrane potential. Based on our results, we believe that wearing FS can influence the functioning of vascular endothelial cells, although the exact mechanism by which FS may help lower blood pressure requires more rigorous investigation.
		• Discussion of the success of and barriers to implementing the intervention, fidelity of implementation	P6/220-222	Based on our results, we believe that wearing FS can influence the functioning of vascular endothelial cells, although the exact mechanism by which FS may help lower blood pressure requires more rigorous investigation.

		• Discussion of research, programmatic, or policy implications	P7/238-239	Nurses often experience numerous foot problems affecting their ability to work. Maintaining good foot health requires regular attention from nurses themselves as well as at the organizational level.
Generalizability	21	• Generalizability (external validity) of the trial findings, taking into account the study population, the characteristics of the intervention, length of follow-up, incentives, compliance rates, specific sites/settings involved in the study, and other contextual issues	P7/240-242	Nurses should be educated on how to provide care for their feet. FS, CS, other hosieries, and footwear are convenient, inexpensive, and easily accessible devices that can alleviate foot discomfort and have positive health benefits during work that involves prolonged periods of standing.
Overall Evidence	22	• General interpretation of the results in the context of current evidence and current theory	P7/242-245	CS is an appropriate choice for individuals with varicose veins. However, in young women who do not have varicose vein problems and want to avoid the adverse effects of CS, other types of FS may promote arterial and cardiovascular health.

From: Des Jarlais, D. C., Lyles, C., Crepaz, N., & the Trend Group (2004). Improving the reporting quality of nonrandomized evaluations of behavioral and public health interventions: The TREND statement. *American Journal of Public Health*, 94, 361-366. For more information, visit: http://www.cdc.gov/trendstatement/

Article information: https://dx.doi.org/10.21037/ht-24-1

*As the checklist was provided upon initial submission, the page number/line number reported may be changed due to copyediting and may not be referable in the published version. In this case, the section/paragraph may be used as an alternative reference.