

The world of cardiovascular nursing research: cross-country evolutions in articles published in the European Journal of Cardiovascular Nursing

Philip Moons (1) 1,2,3*

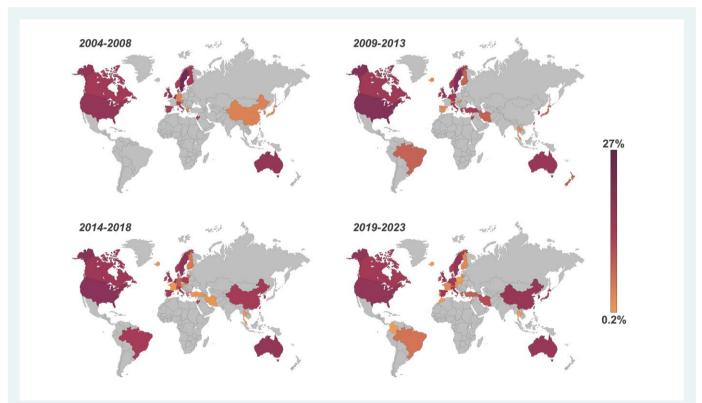
¹KU Leuven Department of Public Health and Primary Care, KU Leuven—University of Leuven, Kapucijnenvoer 35 PB7001, Leuven 3000, Belgium; ²Institute of Health and Care Sciences, University of Gothenburg, Arvid Wallgrens backe 1, Gothenburg 413 46, Sweden; and ³Department of Paediatrics and Child Health, University of Cape Town, Klipfontein Rd, Rondebosch, Cape Town 7700, South Africa

Published 7 November 2023

In line with the Journal's conflict of interest policy, this paper was handled by Jeroen Hendriks.

In February 2002, the first issue of the European Journal of Cardiovascular Nursing was published. At that moment, it was the 'new kid on the block'. However, the Journal has evolved into a leading source of

evidence in the cardiovascular field and has established a reputable status. To commemorate the *Journal*'s 20th anniversary, a review was conducted, focusing on the scope and structure of the *Journal*, submissions and acceptance rates, types of published papers, and the *Journal*'s overall impact. This review revealed that submissions received over the first 20 years of the *Journal* originated from 79 different countries. More



Central illustration Choropleth maps illustrate the distribution of originating countries of articles published in the *European Journal of Cardiovascular Nursing* 2004–23.

The opinions expressed in this article are not necessarily those of the Editors of European Journal of Cardiovascular Nursing or of the European Society of Cardiology.

^{*} Corresponding author. Tel: +32 16 373315, Email: philip.moons@kuleuven.be

2 Editorial

specifically, it was stipulated that: 'Most submissions originate from Sweden (n=320), USA (n=293), China (n=234), UK (n=222), and Australia (n=194), while more recently, the journal has enjoyed submissions from researchers in countries that have not previously submitted their work to EJCN, for example Turkey, Iran, and Japan'.¹

Information regarding the geographical origin of research published in the European Journal of Cardiovascular Nursing serves as an indicator of the work conducted in the field of cardiovascular nursing in the respective countries, both quantitatively and qualitatively. More specifically, it can inform the cardiovascular nursing community about the prioritization of research topics in these countries. Certain cardiovascular health issues may surface earlier in some regions of the world, and other regions can benefit from these early experiences. Knowledge of the origin of research submissions can also foster international collaboration, enabling researchers from countries with diverse healthcare systems and experiences to learn from each other and collaborate on addressing common problems. The research's origin sheds light on how cultural and socio-economic factors influence cardiovascular health and may lead to disparities in care. Lastly, research originating from various countries has a greater potential to inform policy-making, as the generalizability of study findings is higher compared with research from a single region. In summary, the geographical source of cardiovascular nursing research submissions acts as a critical guide, directing efforts to alleviate the global burden of cardiovascular diseases and enhance the quality and effectiveness of healthcare.

To gain a deeper understanding of the evolution over time in the countries of origin, articles (including original research, reviews, special articles, and methods corner) published in the Journal between 2004 and 2023 (Data cut: 18 October 2023) were assessed. They were categorized into four 5-year epochs. The country of the primary affiliation of the first author was recorded for each article. In the epochs of 2004– 08, 2009–13, 2014–18, and 2019–23, the articles were originated from 23, 30, 35, and 39 countries, respectively (Central illustration). In the first epoch (2004-08), articles were mainly originated from Northern Europe, North America, and Australia. This has gradually evolved into a more diverse distribution of the country of origin. Notably, China, Iran, Turkey, Thailand, Malaysia, Singapore, and Brazil have emerged as countries contributing work to the Journal. Also within Europe, evolutions can be observed. Countries such as Germany or Greece, which were already represented by a few articles in the first epoch, have seen the proportion of published articles grow over the decades. Countries that were absent at the start of the Journal, like Poland, France, Portugal, or Lithuania, are now represented in more recent published work. From the African continent, only one paper from Morocco has been published in the Journal to date. Countries that are most represented in published articles in the last epoch were USA (11.4%), Sweden (9.2%), Australia (9%), and China (9%). Taken together, research by cardiovascular nurses and allied health professionals is reaching a more global audience and authorship, emerging in a growing number of countries.

To gain insight into the topics addressed in the published articles, a word cloud (https://www.wordclouds.com/) was created using the titles of articles published in 2004–08 and 2019–23. In both epochs, the words 'patients', 'cardiac', and 'failure' (referring to heart failure) were dominant (*Figure 1*), as they obviously continue to be the important aspects that the *Journal* covers. However, the terms that became more frequent in the article titles in 2019–23 included 'systematic', 'review', 'randomized', 'trial', and 'outcome' (*Figure 1*). This indeed illustrates that the *Journal* is now publishing more systematic reviews^{2–29} (including rapid reviews since these also require a systematic approach³⁰) and reporting results from randomized controlled trials^{31–50} than it did previously. This demonstrates that more Level 1 evidence is currently being published in the *Journal*. Therefore, it serves as an indicator of the increasing rigour and quality of cardiovascular nursing research.



In conclusion, the countries from which articles are published in the European Journal of Cardiovascular Nursing have expanded. This illustrates the global reach of the Journal and also indicates that research by cardiovascular nurses and allied health professionals is expanding on a global scale. The observation that more Level 1 evidence is being published in the Journal is indicative of the professionalization that has been witnessed in cardiovascular research over the past decades. If these trends persist, the care for the global population of people with heart disease will continue to improve.

Editorial 3

Author contributions

P.M.: conceptualization, writing, visualization.

Conflict of interest: None declared.

Data availability

This editorial does not comprise new data.

References

- Fredericks S, Van Bulck L, Ski C, Skibelund AK, Sanders J. From new kid on the block to leading journal: a review and reflection on the first 20 years of the European Journal of Cardiovascular Nursing. Eur J Cardiovasc Nurs 2022;21:4–8.
- Carleton-Eagleton K, Walker I, Freene N, Gibson D, Gibson D. Meeting support needs for informal caregivers of people with heart failure: a rapid review. Eur J Cardiovasc Nurs 2021;20:493–500.
- Kim C, Yang YS, Ryu GW, Choi M. Risk factors associated with amputation-free survival for patients with peripheral arterial disease: a systematic review. Eur J Cardiovasc Nurs 2021;20:295–304.
- Knight Lozano R, May S, Clarkson C, Sarjeant R. Caregiver experiences of paediatric inpatient cardiac services: a qualitative systematic review. Eur J Cardiovasc Nurs 2021;20: 147–159.
- Koberich S, Kato NP, Kugler C, Stromberg A, Jaarsma T. Methodological quality of studies assessing validity and reliability of the European heart failure self-care behaviour scale: a systematic review using the COSMIN methodology. Eur J Cardiovasc Nurs 2021;20:501–512.
- Levelink M, Brutt AL. Factors influencing health-related quality of life of patients with a left ventricular assist device: a systematic review and thematic synthesis. Eur J Cardiovasc Nurs 2021:20:803–815.
- Love MF, Wood GL, Wardell DW, Beauchamp JES. Resilience and associated psychological, social/cultural, behavioural, and biological factors in patients with cardiovascular disease: a systematic review. Eur I Cardiovasc Nurs 2021:20:604–617.
- Piskulic D, McDermott S, Seal L, Vallaire S, Norris CM. Virtual visits in cardiovascular disease: a rapid review of the evidence. Eur J Cardiovasc Nurs 2021;20:816–826.
- Pucciarelli G, Lommi M, Magwood GS, Simeone S, Colaceci S, Vellone E, et al. Effectiveness of dyadic interventions to improve stroke patient-caregiver dyads' outcomes after discharge: a systematic review and meta-analysis study. Eur J Cardiovasc Nurs 2021;20:14–33.
- Shokri-Mashhadi N, Moradi S, Mohammadi H, Ghavami A, Rouhani MH. Association between neck circumference and lipid profile: a systematic review and meta-analysis of observational studies. Eur | Cardiovasc Nurs 2021;20:588–603.
- Son YJ, Lee HJ, Lim SH, Hong J, Seo EJ. Predictors of unplanned 30-day readmissions after coronary artery bypass graft: a systematic review and meta-analysis of cohort studies. Eur J Cardiovasc Nurs 2021;20:717–725.
- Spedale V, Luciani M, Attanasio A, Di Mauro S, Alvaro R, Vellone E, et al. Association between sleep quality and self-care in adults with heart failure: a systematic review. Eur J Cardiovasc Nurs 2021;20:192–201.
- 13. Baricchi M, Vellone E, Caruso R, Arrigoni C, Dellafiore F, Ghizzardi G, et al. Technology-delivered motivational interviewing to improve health outcomes in patients with chronic conditions: a systematic review of the literature. Eur J Cardiovasc Nurs 2023; 22:272–235
- Barisone M, Hayter M, Ghirotto L, Catania G, Zanini M, Dal Molin A, et al. The experience of patients with an implantable cardioverter-defibrillator: a systematic review and meta-synthesis of qualitative studies. Eur J Cardiovasc Nurs 2022;21:677–686.
- Bowden T, Hurt CS, Sanders J, Aitken LM. Predictors of cognitive dysfunction after cardiac surgery: a systematic review. Eur J Cardiovasc Nurs 2022;21:192–204.
- Forsyth F, Mulrennan S, Burt J, Hartley P, Kuhn I, Lin H, et al. What are the outcomes of dietary interventions in heart failure with preserved ejection fraction? A systematic review and meta-analysis. Eur J Cardiovasc Nurs 2023;22:679–689.
- Forsyth F, Mulrennan S, Burt J, Hartley P, Kuhn I, Lin H, et al. What dietary interventions have been tested in heart failure with preserved ejection fraction? A systematic scoping review. Eur J Cardiovasc Nurs 2023;22:126–140.
- Govind N, Ferguson C, Phillips JL, Hickman L. Palliative care interventions and end-of-life care as reported by patients' post-stroke and their families: a systematic review. Eur J Cardiovasc Nurs 2023;22:445–453.
- Kocanda L, Schumacher TL, Plotnikoff RC, Whatnall MC, Fenwick M, Brown LJ, et al. Effectiveness and reporting of nutrition interventions in cardiac rehabilitation programmes: a systematic review. Eur J Cardiovasc Nurs 2023;22:1–12.
- Matthews S, Buttery A, O'Neil A, Sanders J, Marasco S, Fredericks S, et al. Sex differences in mortality after first time, isolated coronary artery bypass graft surgery: a systematic review and meta-analysis of randomized controlled trials. Eur J Cardiovasc Nurs 2022;21:759–771.

Neubeck L, McHale S, Ross M, MacGillivray S, Galbraith M, Hanson C. Spontaneous coronary artery dissection: a systematic review of physical and psychosocial recovery following discharge from hospital. Eur J Cardiovasc Nurs 2022;21:665–676.

- Ng SX, Wang W, Shen Q, Toh ZA, He HG. The effectiveness of preoperative education interventions on improving perioperative outcomes of adult patients undergoing cardiac surgery: a systematic review and meta-analysis. Eur J Cardiovasc Nurs 2022;21: 521–536.
- Olano-Lizarraga M, Wallstrom S, Martin-Martin J, Wolf A. Interventions on the social dimension of people with chronic heart failure: a systematic review of randomized controlled trials. Eur J Cardiovasc Nurs 2023;22:113–125.
- Sanders J, Makariou N, Tocock A, Magboo R, Thomas A, Aitken LM. Preoperative risk assessment tools for morbidity after cardiac surgery: a systematic review. Eur J Cardiovasc Nurs 2022;21:655–664.
- Saz-Lara A, Martinez-Vizcaino V, Sequi-Dominguez I, Alvarez-Bueno C, Notario-Pacheco B, Cavero-Redondo I. The effect of smoking and smoking cessation on arterial stiffness: a systematic review and meta-analysis. Eur J Cardiovasc Nurs 2022; 21:297–306
- Shi W, Ghisi GLM, Zhang L, Hyun K, Pakosh M, Gallagher R. A systematic review, meta-analysis, and meta-regression of patient education for secondary prevention in patients with coronary heart disease: impact on psychological outcomes. *Eur J Cardiovasc Nurs* 2022;21:643–654.
- Song D, Zhou J, Fan T, Chang J, Qiu Y, Zhuang Z, et al. Decision aids for shared decision-making and appropriate anticoagulation therapy in patients with atrial fibrillation: a systematic review and meta-analysis. Eur J Cardiovasc Nurs 2022;21:97–106.
- Vanzella LM, Oh P, Pakosh M, Ghisi GLM. Barriers and facilitators to virtual education in cardiac rehabilitation: a systematic review of qualitative studies. Eur J Cardiovasc Nurs 2022;21:414–429.
- 29. Zhu B, Yin Y, Shi C, Chaiard J, Park CG, Chen X, et al. Feasibility of sleep extension and its effect on cardiometabolic parameters in free-living settings: a systematic review and meta-analysis of experimental studies. Eur | Cardiovasc Nurs 2022;21:9–25.
- Moons P, Goossens E, Thompson DR. Rapid reviews: the pros and cons of an accelerated review process. Eur J Cardiovasc Nurs 2021;20:515–519.
- Bezerra ASM, Santos VB, Lopes CT, de Barros A. Effect of nurse-initiated forced-air warming blanket on the reduction of hypothermia complications following coronary artery bypass grafting: a randomized clinical trial. Eur | Cardiovasc Nurs 2021;20:445–453.
- Deek H, Noureddine S, Allam D, Newton PJ, Davidson PM. A single educational intervention on heart failure self-care: extended follow-up from a multisite randomized controlled trial. Eur J Cardiovasc Nurs 2021;20:212–219.
- 33. Due-Tonnessen N, Egeland CH, Meyerdierks OJ, Opdahl A. Is radial artery occlusion and local vascular complications following transradial coronary procedures affected by the type of haemostasis device used? A non-inferiority randomized controlled trial (RadCom trial). Eur J Cardiovasc Nurs 2021;20:580–587.
- Khadoura KJ, Shakibazadeh E, Mansournia MA, Aljeesh Y, Fotouhi A. Effectiveness of motivational interviewing on medication adherence among Palestinian hypertensive patients: a clustered randomized controlled trial. Eur J Cardiovasc Nurs 2021;20:411

 –420.
- Meentken MG, van der Mheen M, van Beynum IM, Aendekerk EWC, Legerstee JS, van der Ende J, et al. Long-term effectiveness of eye movement desensitization and reprocessing in children and adolescents with medically related subthreshold post-traumatic stress disorder: a randomized controlled trial. Eur I Cardiovasc Nurs 2021;20:348–357.
- Pannag J, Martin L, Yost J, McGillion M, Carroll SL. Testing a nurse-led, pre-implantation educational intervention for primary prevention implantable cardioverter-defibrillator candidates: a randomized feasibility trial. Eur J Cardiovasc Nurs 2021;20:367–375.
- Brouwer-Goossensen D, Scheele M, van Genugten L, Lingsma HF, Dippel DWJ, Koudstaal PJ, et al Motivational interviewing in a nurse-led outpatient clinic to support lifestyle behaviour change after admission to a stroke unit: a randomized controlled trial. Eur J Cardiovasc Nurs 2022;21:36–45.
- Carrington MJ, Zimmet PZ. Nurse co-ordinated health and lifestyle modification for reducing multiple cardio-metabolic risk factors in regional adults: outcomes from the MODERN randomized controlled trial. Eur J Cardiovasc Nurs 2022;21:26–35.
- Coskun S, Duygulu S. The effects of nurse led transitional care model on elderly patients undergoing open heart surgery: a randomized controlled trial. Eur J Cardiovasc Nurs 2022;21:46–55.
- Gok F, Demir Korkmaz F, Emrecan B. The effects of showering in 48–72 h after coronary artery bypass graft surgery through median sternotomy on wound infection, pain, comfort, and satisfaction: randomized controlled trial. Eur J Cardiovasc Nurs 2022;21: 56–66.
- 41. Krohn IL, Rygh CB, Larsen TH, Wentzel-Larsen T, Norekval TM. Effect of radiographer-led intervention on reassurance, treatment satisfaction, and recurring chest pain in patients with a normal coronary computed tomography angiography-a randomized controlled trial. Eur J Cardiovasc Nurs 2022;21:318–324.
- Liu T, Chan AWK, Chair SY. Group- plus home-based Tai Chi program improves functional health among patients with coronary heart disease: a randomized controlled trial. Eur J Cardiovasc Nurs 2022;21:597–611.
- 43. Locatelli G, Zeffiro V, Occhino G, Rebora P, Caggianelli G, Ausili D, et al. Effectiveness of motivational interviewing on contribution to self-care, self-efficacy, and preparedness in

4 Editorial

caregivers of patients with heart failure: a secondary outcome analysis of the MOTIVATE-HF randomized controlled trial. Eur J Cardiovasc Nurs 2022;21:801–811.

- 44. Masterson Creber RM, Reading Turchioe M, Biviano A, Caceres B, Garan H, Goldenthal I, et al. Cardiac symptom burden and arrhythmia recurrence drives digital health use: results from the iHEART randomized controlled trial. Eur J Cardiovasc Nurs 2022;21: 107–115.
- Piotrowicz E, Mierzynska A, Jaworska I, Opolski G, Banach M, Zareba W, et al. Relationship between physical capacity and depression in heart failure patients undergoing hybrid comprehensive telerehabilitation vs. usual care: subanalysis from the TELEREH-HF randomized clinical trial. Eur J Cardiovasc Nurs 2022;21: 568–577.
- Rasmussen TB, Zwisler AD, Risom SS, Sibilitz KL, Christensen J, Bundgaard H, et al. Comprehensive cardiac rehabilitation for patients following infective endocarditis: results of the randomized CopenHeartlE trial. Eur J Cardiovasc Nurs 2022;21: 261–270.
- 47. Sandberg A, Back M, Cider A, Jivegard L, Sigvant B, Wittboldt S, et al. Effectiveness of supervised exercise, home-based exercise, or walk advice strategies on walking performance and muscle endurance in patients with intermittent claudication (SUNFIT trial): a randomized clinical trial. Eur J Cardiovasc Nurs 2023;22:400–411.
- Thodi M, Bistola V, Lambrinou E, Keramida K, Nikolopoulos P, Parissis J, et al. A randomized trial of a nurse-led educational intervention in patients with heart failure and their caregivers: impact on caregiver outcomes. Eur J Cardiovasc Nurs 2023;22:709–718.
- Westas M, Lundgren J, Andersson G, Mourad G, Johansson P. Effects of internetdelivered cognitive behavioural therapy adapted for patients with cardiovascular disease and depression: a long-term follow-up of a randomized controlled trial at 6 and 12 months posttreatment. Eur J Cardiovasc Nurs 2022;21:559–567.
- Zou Y, Wu Q, Liu T, Wang JY, Liu L, Wang XH. The effect of slow breathing exercise on heart rate and blood pressure in patients undergoing percutaneous coronary intervention: a randomized controlled trial. Eur J Cardiovasc Nurs 2022;21:271–279.