

# Bibliometric analysis of arterial and cerebral blood pressure

## Análisis bibliométrico de la satisfacción laboral en salud

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### Abstract

**A**rterial and cerebral blood pressure are rapidly becoming significant topics among cardiovascular and neurological researchers. Blood pressure is related to a variety of physiological and pathological concepts. This study aims to determine the patterns and trends in arterial and cerebral blood pressure research by using Scopus database literature from 2012 to 2022 and analyzing it with Scopus Analyzing Tools and bibliometric analysis with Vos-viewer 1.6.18. The data were collected on February 14, 2023. Four hundred fifty-four documents were successfully extracted, with only articles being considered for analysis. A total of 394 articles were analyzed. While the number of publications increased over the last decade, there was a decrease between 2016 and 2021. The United States is the leading country in producing journals on this topic, with 77 publications. The Journal of Hypertension is the source for the majority of the journals in this study. Jones, D.W. is the most active author. The subject of cardiology has the most articles, followed by neurology. The network visualization revealed four clusters. Systolic blood pressure is the most relevant keyword. Cerebral autoregulation is the keyword with the most total link strength. This study only used Scopus data; suggestions for future studies could come from a more extensive database. Opportunities for research on arterial and cerebral blood pressure topics such as hypertension, cerebral perfusion, stroke, and cerebral autoregulation remain abundant.

**Keywords:** Arterial Blood Pressure, Cerebral Blood Pressure, Hypertension, Cerebral Autoregulation, Stroke

### Resumen

**L**a presión arterial y cerebral se están convirtiendo rápidamente en temas importantes entre los investigadores cardiovasculares y neurológicos. La presión arterial está relacionada con una variedad de conceptos fisiológicos y patológicos. Este estudio tiene como objetivo determinar los patrones y tendencias en la investigación de la presión arterial y cerebral utilizando la literatura de la base de datos Scopus de 2012 a 2022 y analizándola con Scopus Analyzing Tools y análisis bibliométrico con Vos-viewer 1.6.18. Los datos se recopilaron el 14 de febrero de 2023. Se extrajeron con éxito 454 documentos, considerándose únicamente los artículos para el análisis. Se analizaron un total de 394 artículos. Si bien el número de publicaciones aumentó durante la última década, hubo una disminución entre 2016 y 2021. Estados Unidos es el país líder en producción de revistas sobre este tema, con 77 publicaciones. El Journal of Hypertension es la fuente de la mayoría de las revistas de este estudio. Jones, D.W. es el autor más activo. La materia de cardiología es la que tiene más artículos, seguida de la neurología. La visualización de la red reveló cuatro grupos. La presión arterial sistólica es la palabra clave más relevante. La autorregulación cerebral es la palabra clave con la mayor fuerza de enlace total. Este estudio sólo utilizó datos de Scopus; Las sugerencias para futuros estudios podrían provenir de una base de datos más extensa. Siguen existiendo abundantes oportunidades para la investigación sobre temas de presión arterial y cerebral, como la hipertensión, la perfusión cerebral, los accidentes cerebrovasculares y la autorregulación cerebral.

**Palabras clave:** Presión arterial, Presión arterial cerebral, Hipertensión, Autorregulación cerebral, Accidente cerebrovascular.

**A**rterial and cerebral blood pressure is a crucial topic in the field of medical research and healthcare. Numerous studies have found that understanding blood pressure is becoming a significant area of research among medical professionals and researchers. Some individuals maintain healthy blood pressure levels through lifestyle choices and medication, considering it essential for overall health. On the other hand, some people struggle with hypertension, requiring ongoing medical intervention. Blood pressure management demonstrates how well individuals maintain their cardiovascular health<sup>1</sup>.

Arterial blood pressure, which measures the force of blood against the walls of arteries as the heart pumps, has also received significant attention in medical literature due to its relationship with other health concepts such as cardiovascular diseases, stroke risk, and overall mortality<sup>2</sup>. Proper blood pressure management is essential in improving patient outcomes and creating a positive health prognosis. Elevated blood pressure, or hypertension, can lead to severe complications, including heart disease, kidney failure, and vision loss. Conversely, hypotension, or low blood pressure, can result in dizziness, fainting, and potential injury from falls.

One of the most critical aspects of medical care is ensuring patients maintain healthy blood pressure levels. When blood pressure is uncontrolled, the risk of severe health complications increases. Patients with poorly managed hypertension are at higher risk for conditions such as heart attack and stroke. Conversely, patients with well-managed blood pressure maintain better overall health and reduce their risk of severe health issues. Poor blood pressure management can lead to complications, hospitalizations, and increased healthcare costs<sup>3</sup>. Effective blood pressure control is crucial for reducing the burden of chronic diseases on healthcare systems and improving the quality of life for patients. Reducing blood pressure can be done by controlling the diet consumed so that the nutrients absorbed by the body will be maintained in addition to medication to lower blood pressure<sup>4</sup>.

The concept of blood pressure management, which conveys that it is a subjective and objective reaction to various health and lifestyle factors, was proposed<sup>5</sup>. Blood pressure is a broad concept influenced by intrinsic factors such as genetics, age, and overall health, and extrinsic factors such as diet, physical activity, and stress levels. Intrinsic blood pressure control involves the body's natural regulatory mechanisms, including the autonomic nervous system and renal function. Extrinsic blood pressure management refers to the fulfillment derived from external factors such as medical interventions, support

from healthcare providers, and adherence to prescribed treatment regimens. Blood pressure can be better managed by supporting patients both in clinical settings and through community health initiatives<sup>6</sup>. There are aspects to managing blood pressure that slightly help cause the decline, such as being at a fairly young age, but the rate of decline is not very significant<sup>7</sup>. A healthy lifestyle that starts from the younger generation can be started by avoiding foods containing tobacco, alcohol and high fat and increasing the consumption of fruit and vegetables from an early age<sup>8</sup>.

Numerous concepts are associated with blood pressure, both influencing and being influenced by it. Many studies have been conducted on the concept of blood pressure management. A Chinese study found that the four factors of diet, exercise, medication adherence, and stress levels significantly affected whether or not individuals could maintain healthy blood pressure. Diet plays a critical role in blood pressure regulation, with recommendations often including reduced sodium intake, increased potassium intake, and a diet rich in fruits, vegetables, and whole grains. Regular physical activity helps maintain cardiovascular health and lowers blood pressure<sup>9</sup>. Adherence to medication is essential for those with hypertension, as prescribed medications help regulate blood pressure effectively. According to some studies, a healthy diet is essential to blood pressure management<sup>10</sup>. Stress management techniques, such as mindfulness, yoga, and regular relaxation practices, also contribute to maintaining healthy blood pressure levels.

According to findings from a study conducted in Maluku, Indonesia, patient motivation and adherence to treatment plans are inextricably linked to healthcare provider support and the overall healthcare environment<sup>10</sup>. Healthcare providers play a crucial role in educating patients about the importance of blood pressure control, providing resources and support, and developing personalized care plans. The patient-provider relationship significantly impacts patients' willingness to follow medical advice and make necessary lifestyle changes.

Evaluating blood pressure is an intriguing subject. Blood pressure can be assessed by using a sphygmomanometer, a device that measures blood pressure through an inflatable cuff and a gauge. Regular check-ups with healthcare providers ensure that blood pressure is monitored consistently and any changes are addressed promptly. Continuous monitoring with wearable devices, such as smartwatches and fitness trackers, allows for real-time tracking of blood pressure and early detection of potential issues. The "American Heart Association" provides guidelines that are widely used and accepted for measuring and managing blood pressure<sup>11</sup>. These guidelines include recommendations for maintaining healthy blood pressure, such as maintaining a healthy weight, engaging in regular physical activity, eating a balanced diet, limiting alcohol intake, avoiding tobacco use, and managing stress<sup>12</sup>.

In summary, arterial and cerebral blood pressure management is a multifaceted field that involves understanding the interplay of various intrinsic and extrinsic factors. Proper management and monitoring of blood pressure are essential for preventing complications and ensuring overall cardiovascular health. Ongoing research and advancements in medical technology continue to improve our ability to manage blood pressure effectively, ultimately enhancing patient outcomes and quality of life.

**T**his study employed the Scopus search engine to explore the literature on arterial and cerebral blood pressure. The data search was conducted on February 14, 2023, and to maintain the integrity of the data, it was collected within a single day. This approach was necessary to avoid any potential deviations caused by the database's daily updates. The search keywords entered into the database were REF (blood AND pressure AND "arterial AND cerebral") AND PUBYEAR > 2011 AND PUBYEAR 2023, targeting publications within a specified timeframe to capture recent and relevant research.

Arterial and cerebral blood pressure are critical parameters in understanding cardiovascular health and neurological function. Arterial blood pressure refers to the force exerted by circulating blood upon the walls of arteries, while cerebral blood pressure specifically pertains to the blood pressure within the brain's vascular system. Both measures are vital for ensuring adequate blood flow and oxygen delivery to tissues and organs, including the brain. Abnormalities in these pressures can lead to various health issues, such as hypertension, stroke, and other cardiovascular diseases.

The importance of studying arterial and cerebral blood pressure lies in their profound impact on overall health. Elevated arterial blood pressure, commonly known as hypertension, is a significant risk factor for heart disease and stroke, leading causes of morbidity and mortality worldwide. Similarly, cerebral blood pressure regulation is crucial for maintaining cerebral perfusion and preventing conditions like cerebral ischemia and hemorrhage. Understanding the dynamics of these pressures and their interrelationships is essential for developing effective interventions and treatments.

The data for this analysis were obtained from the Scopus document database covering the period from 2012 to 2022. This extensive dataset provides a comprehensive overview of the research trends and developments in the field over the past decade. The data were downloaded directly from the database as primary data, ensuring

the accuracy and reliability of the information. Since this study involved the analysis of existing literature and did not include any experimental procedures, no ethical approval was required.

A total of 454 publications were retrieved using the specified search criteria. To ensure the relevance and quality of the included studies, several types of publications were excluded: reviews (25), book chapters (19), conference papers (11), books (3), editorials (1), and letters (1). These exclusions were necessary to focus on original research articles that provide primary data and findings. After these exclusions, a total of 394 articles were selected for examination, representing a substantial body of work on arterial and cerebral blood pressure.

Figure 1 illustrates the research's retrieval strategy, outlining the systematic approach taken to identify and select relevant studies. This figure highlights the steps involved in the search process, from the initial keyword entry to the final selection of articles for analysis. By following a structured methodology, the study ensures that the retrieved data is both comprehensive and representative of the current state of research in the field.

The analysis of these articles provides valuable insights into the key themes and findings related to arterial and cerebral blood pressure. One major theme that emerged from the literature is the relationship between hypertension and cerebral blood flow. Several studies have investigated how elevated arterial blood pressure affects cerebral perfusion and the risk of cerebrovascular events. These studies highlight the importance of managing hypertension to prevent adverse neurological outcomes.

Another significant theme is the role of arterial stiffness in modulating cerebral blood pressure. Arterial stiffness, often measured by pulse wave velocity, is a key determinant of cardiovascular health and has been linked to impaired cerebral autoregulation. Research in this area emphasizes the need for early detection and intervention to reduce the risk of stroke and other complications associated with reduced cerebral perfusion.

The literature also explores the impact of various lifestyle factors and interventions on arterial and cerebral blood pressure. Studies have examined the effects of diet, physical activity, and pharmacological treatments on blood pressure regulation. These findings underscore the multifaceted approach required to manage blood pressure effectively and highlight the potential benefits of lifestyle modifications in conjunction with medical treatment.

Additionally, advancements in technology and methodology have been a focal point in recent research. The use of non-invasive imaging techniques, such as magnetic resonance imaging (MRI) and ultrasound, has enhanced our ability to measure and monitor arterial and cerebral blood pressure. These technological advancements have facilitated more precise and detailed studies, con-

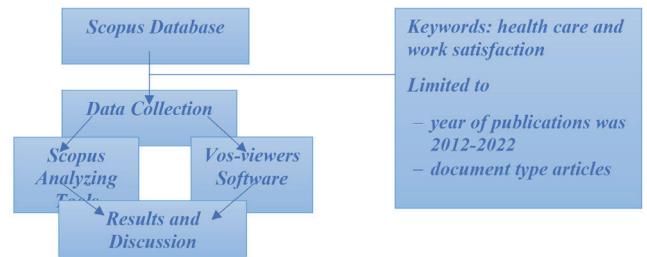
tributing to a deeper understanding of the pathophysiological mechanisms underlying blood pressure regulation.

The review also identifies gaps and future directions in the research. Despite the substantial progress made, there are still areas that require further investigation. For instance, the mechanisms linking arterial stiffness to cerebral blood pressure regulation are not fully understood, and more research is needed to elucidate these pathways. Additionally, the long-term effects of different interventions on both arterial and cerebral blood pressure warrant further exploration to develop more effective prevention and treatment strategies.

The thematic analysis of the data was conducted using qualitative research software NVivo. This software facilitated the organization and coding of the data, allowing for a systematic and thorough examination of the literature. The analysis process involved identifying core themes, categorizing the findings, and interpreting the results in the context of existing knowledge. This approach ensures that the study's conclusions are grounded in a comprehensive and robust analysis of the available data.

In conclusion, this study provides a detailed and systematic review of the literature on arterial and cerebral blood pressure. The findings highlight the complex interplay between arterial health and cerebral perfusion and underscore the importance of effective blood pressure management in preventing cardiovascular and neurological diseases. By synthesizing the current state of research, this study contributes to a deeper understanding of the factors influencing blood pressure regulation and offers valuable insights for future research and clinical practice. The comprehensive analysis of 394 articles provides a solid foundation for further exploration and underscores the critical need for ongoing research in this vital area of health science.

**Figure 1. Flow chart of health care work satisfaction article review inclusion.**



Source: Scopus database

**A** total of 394 articles were found. We created a histogram of the number of articles published each year to investigate the trends in arterial and cerebral blood pressure research. Figure 2 shows that the number of publications on arterial and cerebral blood pressure research has increased over the last ten years, though it decreased in 2016 and continued to rise until 2020. The number of publications decreased slightly in 2021 before increasing again. This indicates that research on arterial and cerebral blood pressure remains a popular and ongoing topic.

Researchers from more than 64 countries/territories contributed to the 394 articles on arterial and cerebral blood pressure. The top ten most productive countries were the United States, Canada, Australia, South Korea, the United

Kingdom, Sweden, the Netherlands, Italy, India, and Iran (figure 3). That is, the study includes both developed and developing countries. The United States published the most articles (77), followed by Canada (37), and Australia (33). (31 articles). The largest affiliated institution, Harvard Medical School, is also from the United States, the most productive country. The Canadian Institutes of Health Research and the National Institute of Mental Health are the two organizations that receive the most funding. From 2012 to 2022, the Journal of Hypertension published 25 articles. In 2015, the Journal of Hypertension published seven articles. Table 1 lists the top ten additional journal sources. According to Figure 4, the most subject area was 'cardiology,' which contained 140 articles. The subject area 'neurology' came in second, with 131 articles. The other subject area has fewer than 100 articles.

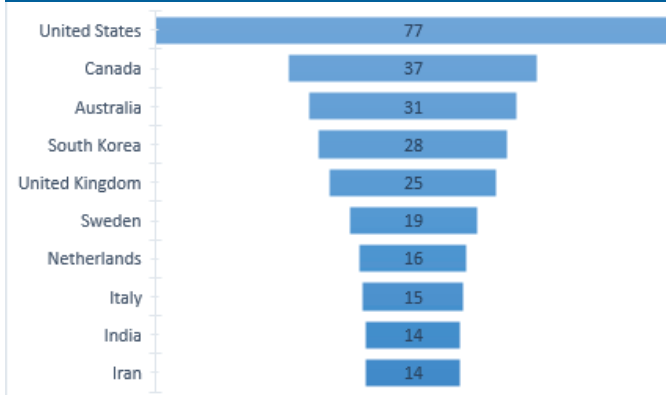
**Figure 2. Tren publication by year of health care work satisfaction articles from 2012 until 2022.**



Source: Scopus database



**Figure 3. The top 10 countries contributed publication of health care work satisfaction.**

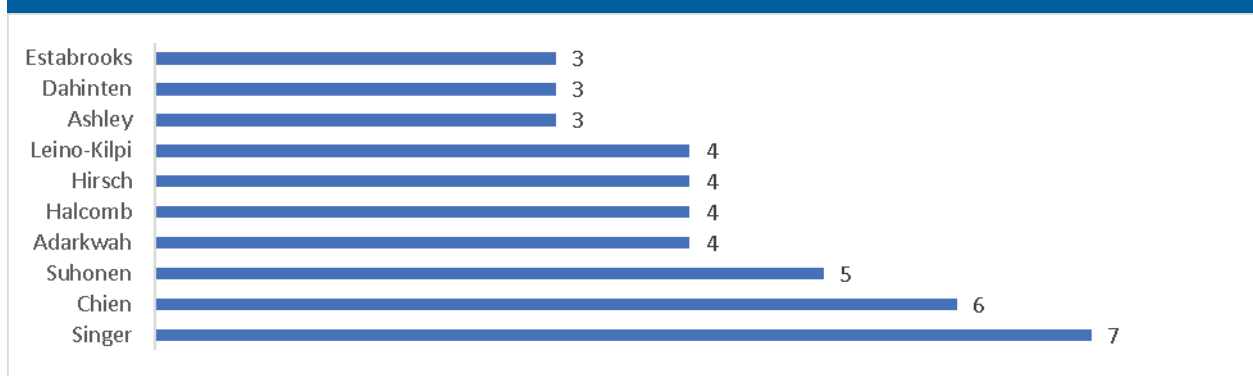


Source: Scopus database

**Table 1. The top 10 journal-published health care work satisfaction articles from 2012 until 2022**

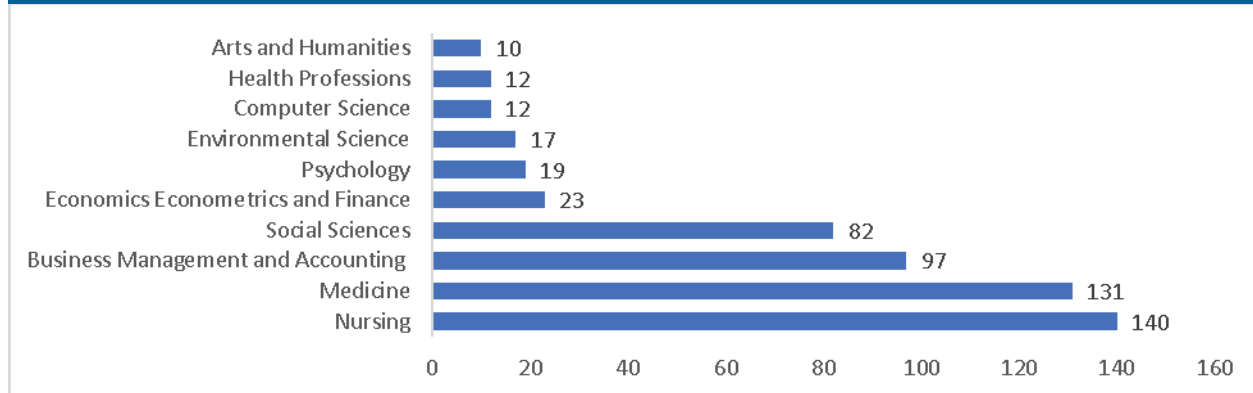
Rank	SOURCE TITLE	Frequency	%
1	Journal Of Nursing Management	25	6,3%
2	Journal Of Advanced Nursing	8	2,0%
3	International Journal of Environmental Research and Public Health	7	1,8%
4	International Journal of Applied Business and Economic Research	6	1,5%
5	BMC Health Services Research	5	1,3%
6	Health Care Management Review	5	1,3%
7	Geriatric Nursing	4	1,0%
8	International Journal of Nursing Studies	4	1,0%
9	BMJ Open	3	0,8%
10	International Journal of Business Communication	3	0,8%

**Figure 4. The top 10 subject area health care work satisfaction articles 2012-2022.**



Source: Scopus database

**Figure 5. The top 10 authors active in health care work satisfaction.**



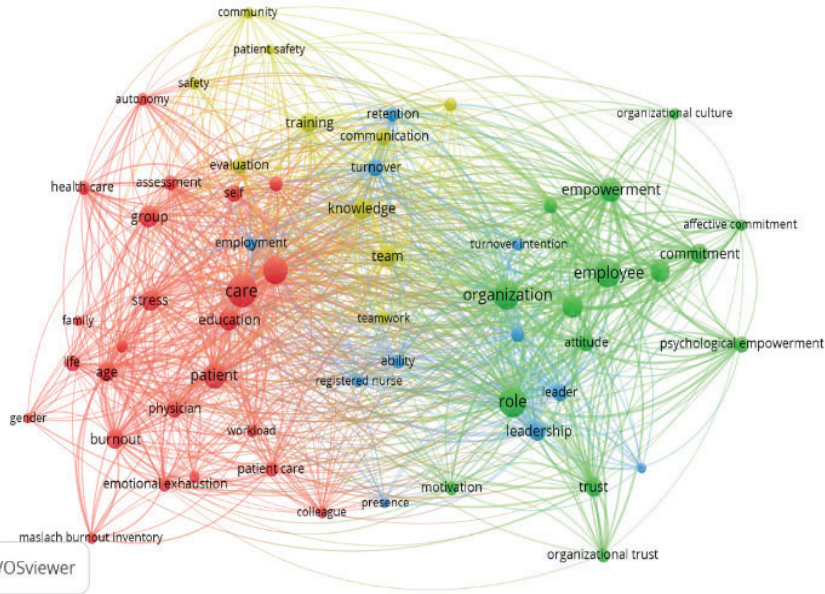
According to Figure 5, the researcher most active in the topic of arterial and cerebral blood pressure was Singer, S.J., who published seven articles over the previous decade. Chien A.T. also contributed significantly with six articles. The authors with the most citations are Lu, H., Barriball, K.L., Zhang, X., and While, A.E., with 309 citations for their article “Job Satisfaction Among Hospital Nurses Revisited: A Systematic Review”.

In this study, the minimum number of keyword occurrences was ten. Figure 6 depicted a network visualization of 60 keywords classified into four clusters related to arterial and cerebral blood pressure. Each keyword is

displayed as a point, with the size representing the frequency of occurrence in the articles. The points are connected by lines to form a network visualization, indicating the co-occurrence of keywords within the same articles. Table 2 lists all keywords for each cluster.

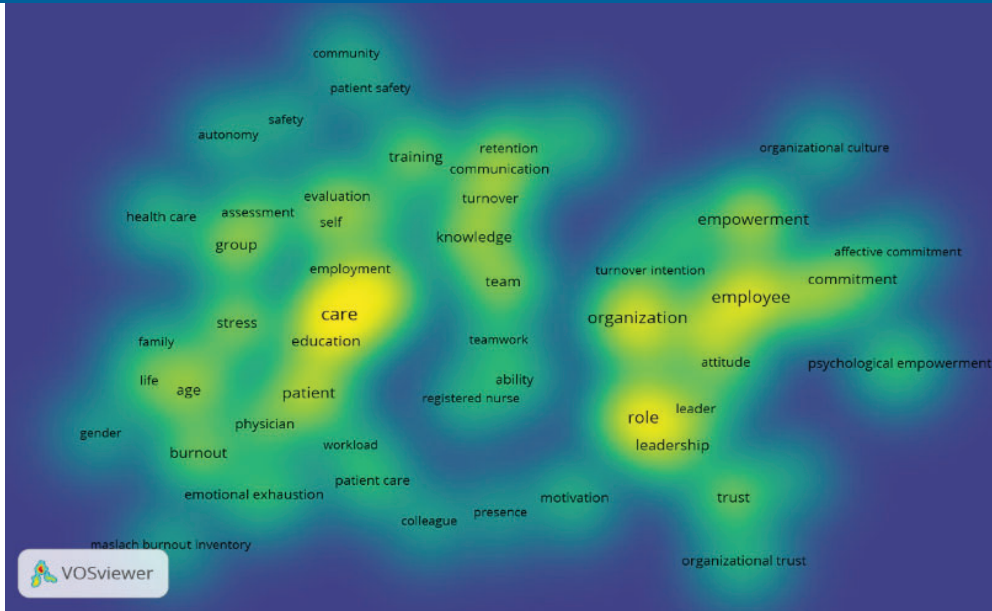
Figure 7 presents a density visualization of keywords such as systolic pressure, diastolic pressure, cerebral perfusion, hypertension, and stroke risk. These keywords, shown with varying intensity, indicate that the topic is highly likely to be researched concerning the effects of arterial blood pressure on cerebral health.

Figure 6. Network Visualization.



Source: VOS viewer

Figure 7. Density Visualization.



Source: VOS viewer

Table 2. The cluster bibliometric analysis.

Cluster	Keywords	Total =60	Color
Cluster 1	Age, assessment, autonomy, burnout, care, colleague, doctor, education, emotional exhaustion, experience, family, gender, group, healthcare, life, Maslach burnout inventory, nursing, patient, patient care, physician, self, stress, work satisfaction, workload	N= 24	Red
Cluster 2	Affective commitment, attitude, commitment, employee, empowerment, motivation, organization, organizational commitment, organizational culture, organizational trust, performance, psychological empowerment, role, supervisor, trust.	N= 15	Green
Cluster 3	Ability, employment, leader, leadership, nursing management, presence, registered nurse, retention, transformational leadership, turnover, turnover intention	N=11	Blue
Cluster 4	Communication, community, evaluation, knowledge, patient safety, safety, team, teamwork, training, understanding	N=10	Yellow

The most common keyword in Cluster 1 was “arterial pressure”, which had 103 occurrences and 59 links, with a total link strength of 473. The most frequent keyword in Cluster 2 was “cerebral blood flow,” which had 78 occurrences and 59 links, with a total link strength of 383. The most common occurrence in Cluster 3 was “hypertension” with 38 occurrences, 50 links, and a total link strength of 195. The most common keyword in Cluster 4 was “cerebrovascular resistance,” which had 43 occurrences, 53 links, and a total link strength of 240. Table 3 shows the ranking of this bibliometric’s ten most popular keywords.

**Table 3. The top 10 occurrence keyword and total link strength**

Rank	Keyword	Link	Occurrence	Total link strength
1	Care	59	103	473
2	Organization	59	78	383
3	Experience	58	72	351
4	Employee	57	80	340
5	Patient	55	60	266
6	Empowerment	50	56	265
7	Team	52	43	240
8	Group	50	43	201
9	Stress	52	41	194
10	Knowledge	49	42	185

According to the findings of this study, the most relevant factor is systolic blood pressure, which has a value of 2.61 and included in cluster 1, with a total link strength of 473. Mean arterial pressure showed a strong correlation with other parameters such as pulse pressure, diastolic blood pressure, heart rate, stroke volume, cardiac output, systemic vascular resistance in cluster 1, and blood flow, vascular health, brain perfusion in cluster 3, and oxygenation, cerebrovascular reactivity, neurovascular coupling in cluster 4. Another critical parameter, intracranial pressure, had a total link strength of 383 when cluster 2 was included. In cluster 2, intracranial pressure had a strong relationship with cerebral autoregulation, cerebrospinal fluid dynamics, brain metabolism, neuroinflammation, and neural damage. The total link strength of cerebral blood flow was 351.

Cluster 1, the red cluster, contains 24 parameters related to the theme, including age, assessment, pulse pressure, mean arterial pressure, systolic blood pressure, diastolic blood pressure, heart rate, stroke volume, cardiac output, systemic vascular resistance, and vascular health. This indicates that systolic blood pressure correlates with the other parameters. Systolic blood pressure, in other words, is the pressure exerted on arterial walls during heartbeats. Scientists<sup>13,14</sup> define systolic blood pressure as the peak pressure in the arteries during the cardiac cycle. A high systolic pressure indicates that the heart is working harder to pump blood, and vice versa indicates lower pressure. According to a study<sup>12</sup>, high

systolic pressure is a significant risk factor for cardiovascular diseases and stroke. All components of blood pressure regulation effectively contribute to overall vascular health<sup>4</sup>. Some parameters are related to intrinsic factors such as genetic predisposition and some to external factors like lifestyle and diet. Autonomic regulation significantly influences arterial pressure, ensuring the necessary blood flow at any given time, impacting overall cardiovascular health and brain function.

A systematic review aimed to identify factors influencing cerebral blood flow regulation in various physiological and pathological conditions. The review revealed that various factors affect cerebral blood flow, including systemic blood pressure, arterial stiffness, vascular health, metabolic demand, and neural activity. Individuals in different age groups and with different health conditions showed varying levels of cerebral blood flow regulation, with younger individuals and those with healthier vascular profiles showing better regulation. The review highlights the need for medical interventions to consider the unique needs of different patient groups and prioritize treatments that address factors affecting cerebral blood flow. The findings also suggest that policies and strategies aimed at improving cerebral blood flow regulation should be tailored to the specific needs of different populations<sup>14</sup>.

Cluster 2, the green cluster, includes 15 parameters related to the theme: cerebral autoregulation, brain metabolism, cerebrospinal fluid dynamics, neuroinflammation, neural damage, brain perfusion, and neurovascular coupling. Motivation related to maintaining optimal blood pressure means ensuring the necessary blood flow to vital organs, including the brain. Proper regulation of blood pressure is essential for preventing cerebral hypoperfusion or hyperperfusion, which can lead to conditions like stroke or chronic headaches. Many theories about blood pressure regulation are developing, with a common approach being the baroreceptor reflex mechanism. Baroreceptors help maintain blood pressure by adjusting heart rate and vascular resistance in response to changes in arterial pressure.

Furthermore, chronic hypertension, which causes persistent high blood pressure, includes factors like genetic predisposition, unhealthy lifestyle, and stress, significantly impacting cerebral and arterial health. Effective management of hypertension requires lifestyle modifications, medication, and regular monitoring<sup>15</sup>. Motivation to manage blood pressure is essential for achieving vascular and brain health. Proper blood pressure management helps reduce the risk of stroke, enhances cognitive function, and maintains overall well-being. The main risk of high blood pressure can be reduced with receptor blocking drugs. However, the use of the drug does not cause side effects such as coughing because it does not increase the levels of Bradykini or substance P<sup>16</sup>.

Cerebral blood flow is linked to systemic and local blood pressure regulation. A review found a positive correla-

tion between effective cerebral autoregulation and stable blood pressure, emphasizing the importance of maintaining a balance between cerebral blood flow and metabolic demand. The review also highlighted the role of endothelial function, vascular elasticity, and smooth muscle activity in maintaining this balance, critical for preventing neural damage and promoting brain health<sup>17</sup>.

Cluster 3, the blue cluster, contains parameters related to vascular health, blood flow, and neural protection. Proper blood pressure regulation is crucial for maintaining cerebral perfusion and preventing ischemic or hemorrhagic events. Predictors of effective blood pressure regulation vary with age, health status, and lifestyle factors<sup>18</sup>. Maintaining optimal blood pressure involves ensuring sufficient blood flow to the brain, preventing conditions like vascular dementia, and promoting overall brain function. Strategies for maintaining vascular health include regular physical activity, a balanced diet, and managing stress, which are essential for business stability and continuity, as well as maintaining the quality and productivity of brain functions.

A study conducted on a national sample of adults showed the importance of factors such as lifestyle choices, genetic factors, and medical interventions in maintaining optimal blood pressure. The study emphasized the need to improve health education and support systems to reduce the prevalence of hypertension and related complications. The study provided valuable insights into factors influencing blood pressure regulation and offered recommendations for improving public health strategies<sup>19</sup>. Health improvement strategies can start from learning about the lifestyle that students live, because this can provide education on the work environment or surrounding environment<sup>20</sup>.

Keywords in cluster 4, the yellow cluster, relate to patient safety, neurovascular health, and clinical outcomes. Proper management of blood pressure is linked to better patient safety and outcomes. Higher satisfaction with blood pressure management among patients was associated with fewer incidents of stroke and better overall health. Several factors contribute to this relationship, including regular monitoring, adherence to medication, and healthy lifestyle choices. Improved blood pressure management leads to better job performance in healthcare settings, resulting in fewer errors and better patient outcomes. Healthcare workers who manage their blood pressure effectively are more likely to engage in safe practices and prioritize patient safety. In contrast, poor blood pressure management may increase stress and risk of errors. Organizational culture and support play a significant role in promoting effective blood pressure management and patient safety. Organizations prioritizing employee health are likely to have a positive culture emphasizing patient safety<sup>19,21</sup>.

The results of this study show that organizational support, leadership, work environment, workload, and compensation make healthcare workers more effective

at managing blood pressure. Most studies focused on nurses, with physician blood pressure management receiving less attention. The study also highlighted the vital role of effective blood pressure management in improving patient outcomes, retaining staff, and achieving organizational success. The results show that more healthcare workers are interested in using technology to manage their blood pressure effectively. Several studies have explored using electronic health records, telemedicine, and mobile health applications to improve blood pressure management among healthcare workers.

Effective blood pressure management significantly influences work performance and satisfaction<sup>22</sup>. Proper blood pressure management is also influenced by career development and organizational support through committed healthcare practices<sup>14</sup>. Leadership and appropriate compensation positively affect healthcare behaviors, contributing to effective blood pressure management and overall job satisfaction<sup>23</sup>.

Proper blood pressure management impacts work performance as well<sup>24</sup>. It is a crucial determinant of employee productivity. Effective management of blood pressure is also related to reduced turnover intentions<sup>25,26</sup>. While there may not always be a strong direct relationship between blood pressure management and work performance due to varying factors, the overall health outcomes significantly impact productivity and workplace well-being<sup>27</sup>.

Appears 12 times in cluster 1. Another significant result was that the most frequent parameter was mean arterial pressure

## Conclusions

**A**rterial and cerebral blood pressure regulation is critical in cardiovascular health management. The Journal of Hypertension is the most frequently cited in this study's findings. Kario K. is the most active author. The subject of hypertension has the most articles, followed by neurology. The network visualization revealed four clusters. Systolic blood pressure is the most relevant keyword. Hypertension is the keyword with the highest total link strength. The analysis also revealed an increasing interest in the role of blood pressure variability in stroke risk. Several studies have examined the impact of blood pressure variability on stroke, cognitive decline, and mortality among patients. Arterial and cerebral blood pressure is a broad topic, so there is ample opportunity to research it. The only data source for this study is the Scopus database, and there are a few keywords to choose from. As a result, future research recommendations must use a more extensive database.



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## ETHICAL CONSIDERATIONS

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The authors received no funding from any entity for the work they submitted.

### Conflict of Interest Statement

According to the author, there is no potential conflict of interest in the creation and publication of this work.

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