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EMPOWERING LEADERSHIP AND QUALITY CARE IN HEALTH ORGANIZATION: A THEORETICAL REVIEW

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I declare to be the author of this work, which is unique and unprecedented. The author and work consulted are properly cited in the text and are included in the listing of references.

Anthony Camelious Ocran

…….

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ABSTRACT

There is a globe strives to go back to normal after the COVID-19 epidemic and the Russia vs. Ukraine war, which created an economic catastrophe to the majority of countries worldwide. Leaders and managers of healthcare organizations are making the required structural adjustments to ensure the return of healthcare that is competitive and viable. To be able to achieve this, it is crucial to comprehend the connection between empowering leaders and the standard of care provided in healthcare organizations throughout the world by systematically reviewing existing literature on this theme. Using bibliometric analysis of literature, this study aims to understand the thematic evolution of the literature related to empowering leadership and quality care in health organizations in the context before and during an ongoing crisis and war in Ukraine. It also examines whether the variables (Leadership and Quality of Healthcare) are related in order to benefit the current investments made in healthcare service. Overall, this systematic study provides significant support for the claim that, compared to the time before the crisis, the number of authors, publications, and journals, as well as the international collaboration network, rose during the crises period. The analysis gives clear evidence of the scientific literature's theme evolution both before and during the crisis period by demonstrating a shift in the utilization of keyword-plus across time. Four primary subjects from 2012 to 2018 that were followed by a number of additional themes from 2019 to 2022 serve as an example of the thematic evolution of keyword plus. Furthermore, the study offers strong proof of the association between effective leadership and high standards of care. Therefore, we advise managers of health organizations to make an effort to empower their organization's leadership in order to provide their patients with high-quality care.

Keywords: Empowering leadership, Quality of healthcare, Systematic review, Russia vs. Ukraine war, Organization, Covid-19.

RESUMO

O mundo tenta voltar ao normal após a pandemia da COVID-19 e a guerra Rússia vs. Ucrânia, que trouxe uma crise económica à maioria dos países do mundo. Os governos de todas as nações estão a trabalhar para operacionalizar estratégias políticas de apoio à recuperação da economia em áreas cruciais e afectadas, como resultado do impacto significativo no sector da saúde e na qualidade da prestação de cuidados de saúde. A nível organizacional, os líderes e gestores estão a efectuar as mudanças estruturais necessárias para garantir o regresso à actividade com competitividade e viabilidade. Ao fazer isto é importante compreender a relação entre a construção da capacidade dos líderes e a qualidade dos cuidados prestados nas organizações de saúde em todo o mundo para poder tomar uma decisão informada que não comprometa nenhum sector. Utilizando a análise bibliométrica da literatura, este estudo visa compreender a evolução temática da literatura relacionada com a capacitação da liderança e da qualidade dos cuidados de saúde nas organizações de saúde no contexto antes e durante uma crise e guerra em curso na Ucrânia. Também examina se as variáveis Liderança e Qualidade dos Cuidados de Saúde estão relacionadas com o benefício dos actuais investimentos feitos nos serviços de saúde. Este estudo emprega uma abordagem quantitativa sistemática para mapear e rever os estudos existentes sobre a liderança e a qualidade dos cuidados de saúde. Para expandir a nossa compreensão, medir, e avaliar artigos científicos publicados, sobre Empoderamento da Liderança e Qualidade dos cuidados de saúde, realizámos uma revisão sistemática da literatura científica e multidisciplinar, começando com uma pesquisa de publicações na base de dados da Web of Science (WoS) da Clarivate Analytics e utilizando os dados para análise bibliométrica. Para demonstrar esta trajectória e estrutura de conhecimento, utilizámos abordagens bibliométricas tais como cooperação, co-citação, ou co-palavra, análise factorial, e mapeamento científico. A pesquisa de palavras-chave; 'Empowering Leadership', ou 'Empower leadership', ou 'Leadership'; ou 'apoio', ou 'apoio', ou 'supervisão', e 'Qualidade dos Cuidados de Saúde', ou 'satisfação do paciente' na WoS, rendeu um total de 5.518 publicações. Após a aplicação dos critérios de elegibilidade, combinados com os operadores "booleanos", obtivemos um total de 1142 artigos. Usando PRISMA, 20 artigos foram seleccionados e revistos para determinar a associação entre liderança capacitadora e qualidade dos cuidados de saúde. Encontrámos 1142 artigos publicados por 5645 autores em 268 fontes da base de dados da WoS para o período de 2012-2022. 44 destes artigos

de investigação foram de autoria única e os restantes artigos foram de co-autoria. A taxa de crescimento anual destes artigos foi de 2,14 por ano. Os investigadores listaram os 1142 artigos com 2570 palavras-chave e 1688 palavras-chave-mais da WoS. A análise das 10 principais palavras-chave mais mostra o crescimento na utilização destas palavras ao longo do ano. O número de todas estas áreas de investigação por ano aumentou ao longo do tempo, mas algumas cresceram de forma mais dinâmica do que outras. Os termos com maior aumento de ocorrências ao longo do tempo foram "qualidade" que tem uma taxa de ocorrência por ano de 98,8, seguido de "cuidados", "cuidados de saúde", "impacto", "liderança" e "implementação" com uma taxa de ocorrência de 85,6, 72,6, 64,8 e 40,4. Em geral, identificámos a contribuição de 64 países. Os EUA são o país com o maior número de publicações com 513 artigos, dos quais 454 são Publicações de um único país (SCI) e 59 são Publicações de vários países (MCP). O Reino Unido seguiu com 172 artigos, dos quais 124 são SCI e 48 são MCI, seguido da Austrália, Canadá e Holanda com 69, 54 e 30 publicações,60, 45, e 26 artigos SCI e 9, 9 e 5 artigos MCI, respectivamente. Identificámos a contribuição de 46 países que colaboraram para produzir 222 artigos antes do período de crise. Os EUA são o país mais destacado com o maior número de publicações e colaborações com outros países do mundo. Países como os Países Baixos, Espanha, Polónia, Alemanha e Noruega foram também considerados como formando um cluster de colaboração em investigação entre si com vários artigos, embora existam colaborações ocasionais com outros países, a colaboração é mais forte dentro destes países. Num outro cluster, verificou-se que os países africanos da África do Sul eram o pivot da colaboração com outros países africanos, como a Nigéria e a Etiópia, bem como a Índia, Canadá e Nova Zelândia Portugal colaboraram apenas com a Alemanha. A nossa análise das redes de colaboração entre países durante a crise identificou a contribuição de 47 países que colaboraram para produzir 245 artigos neste campo durante o período de crise. Embora a análise da estrutura social mostre uma relação estreita entre os países europeus, encontrámos os EUA no centro destas colaborações. Embora nenhum dos 20 artigos analisados tenha examinado a relação directa entre o empoderamento da liderança e a qualidade dos cuidados de saúde, a maioria dos estudos examinou a relação entre o empoderamento da liderança e outras variáveis tais como Experiência, segurança dos pacientes, inovação, desempenho e satisfação, onde foi encontrada uma forte relação positiva. No que respeita à Qualidade dos cuidados, foi encontrada uma forte ligação positiva com a liderança, Experiência, cuidados primários, comunicação, política e

satisfação, enquanto que um resultado inconclusivo foi encontrado com a segurança, implementação e gestão dos doentes. Globalmente, este estudo sistemático fornece um apoio significativo à alegação de que, em comparação com o tempo anterior à crise, o número de autores, publicações e revistas, bem como a rede de colaboração internacional, aumentou durante o período de crise. A análise dá provas claras da evolução temática da literatura científica, tanto antes como durante o período da crise, demonstrando uma mudança na utilização da palavra-chave - mais ao longo do tempo. Quatro temas primários de 2012 a 2018 que foram seguidos por vários temas adicionais de 2019 a 2022 servem como exemplo da evolução temática da palavra-chave plus. Além disso, o estudo oferece uma forte prova da associação entre liderança eficaz e elevados padrões de cuidados. Por conseguinte, aconselhamos os gestores das organizações de saúde a fazerem um esforço para capacitar a liderança da sua organização a fornecer aos seus pacientes cuidados de alta qualidade.

Palavras-chave: Empoderara liderança, Qualidade dos cuidados de saúde, Revisão sistemática, Guerra Rússia x Ucrânia, Organização, Covid-19.

CHAPTER 1. INTRODUCTION

The world tries to get back to normal after the COVID-19 pandemic and the Russia vs. Ukraine war, which brought an economic crisis to the majority of countries worldwide. Governments in all nations are working to operationalize political strategies to support the recovery of the economy in crucial and affected areas as a result of the significant impact on the health sector and the quality of healthcare delivery. At the organizations' level, their leaders and managers must make the necessary structural changes to guarantee a return to activity with competitiveness and viability. In doing this it is important to understand the relationship between building the capacity of leaders and the quality of care delivered in healthcare organizations around the world so as to be able to make an informed decision that would not compromise on any sector. According to Zhang and Bartol (2010) empowering leadership and quality of care naturally go together. Hence understanding the trend and relationship established in literature before the pandemic and during the pandemic will guild governments in making well-informed decisions to get the economy back to normal in terms of quality-of-care delivery.

The importance of good leadership is becoming increasingly apparent within health care. Literature has established different forms of leadership in an organization which include controlling leadership. Controlling leadership is the antithesis of empowering leadership (Zhang and Bartol, 2010). An effective leader knows that in order to get greater results, it's crucial to transfer control to the workforce through power sharing and impact-based compensation. As a result, these leaders promote critical thinking to investigate novel concepts and create other working methods. Because of this, great leaders frequently have a workforce full of inventive workers who are driven to find solutions to issues as they arise. Employees perform creatively at work because they feel empowered to exercise influence (Joo, Yoon and Galbraith, 2022). This creative performance involves coming up with original and helpful ideas, which calls on employees to take risks, come up with solutions, seek out information, and be proactive (Nguyen *et al.*, 2022).

However, does empowering leadership reaches its expected outcome of ensuring the delivery of quality care in the health system? Although there is an intuitive linkage between empowering leadership and quality of service, research findings in different samples and contexts are not consistently supportive of this linkage (Zhou and Hoever, 2014). 'Empowering leadership might not always be the best "fit" for particular work settings or based on follower differences'

(Sharma and Kirkman, 2015). These inconsistent findings in the literature suggest the existence of moderators in the linkage between empowering leadership and other variables in different work settings (Fong and Snape, 2015).

Empowering leadership and quality care in a health organization, are important issues in their own right and is evolving at a different pace in different settings (Rosen *et al.*, 2018). However, does empowering leadership reach its expected outcome of ensuring quality care, especially within the health care system? This is the question that this study seeks to answer by examining the thematic evolution of the literature related in the context before and an ongoing crisis and war in Ukraine and also analyze whether the variables (Leadership and Quality of Healthcare) are related in order to benefit the current investments made in healthcare service.

The objectives of this study are, at first, to make known the thematic evolution of the literature related to empowering leadership and quality care in health organization the context before and an ongoing crisis and war in Ukraine, and in a second instance, analyze whether the variables (Leadership and Quality of Healthcare) are related in order to benefit the current investments made in healthcare service. According to the aforementioned objectives, the following specific objectives were outlined: (i) Know the thematic evolution of scientific literature, before and during these critical moments; (ii) Investigate whether the variables (Leadership and Quality of Healthcare) correlate in order to influence the healthcare service delivery.

The study consists of five chapters. Chapter one presents the background information needed for the study and explains its relevance, rationale, and related issues. This chapter also explains the purpose of the problem statement. Chapter two reviews the existing information related to the topic and explains concepts based on existing literature. Chapter three is the main chapter that systematically conducts a bibliometric analysis and a literature review to identify the findings of the research questions. In addition, this chapter provides a summary of the findings as well as a list of articles included in the review. Chapter four examines the results concerning other relevant literature that could not be included in the themes. Finally, Chapter 5 discusses the results and relates is to other literature. Chapter 6 concludes the overall objectives of the study and concludes with recommendations and limitations.

CHAPTER 2. FRAMEWORK

Leadership

Many believe that leaders are created, not born. However, it is becoming more widely recognized that in order to be a successful leader, one must possess the necessary expertise, knowledge, dedication, patience, and—most importantly—the capacity to compromise and collaborate with others in order to achieve objectives. Thus, effective leaders are created, not born. A never-ending process of self-study, education, training, and the accumulation of pertinent experience is required to build good leadership (Amanchukwu, Stanley and Ololube, 2015). Boulding (1956) developed the broad transdisciplinary theory of knowledge and human, social, and organizational behaviour in his book "The Image: Knowledge in Life and Society." Strong character and unselfish dedication to an organization, according to him, serve as the foundation of excellent leadership (Bourne and Jenkins, 2013). From the viewpoint of the workforce, leadership is made up of all the actions a leader does that have an impact on the accomplishment of goals, the happiness of workers, and the health of the business. Because trust is essential to many kinds of human organizations, including those in industry, the military, the government, and international organizations, leadership positions frequently depend on it (Ivancevich, Matteson and Konopaske, 2008; Sharma and Jain, 2013). By employing the available resources (both human and material), leadership entails a sort of responsibility aimed at attaining certain goals while guaranteeing a cohesive and coherent organization throughout the process (Amanchukwu, Stanley and Ololube, 2015). According to Allen (2018) Northouse (2007) and Ng *et al.* (2007), leadership is the process through which one person persuades a group of others to pursue a single objective. Since there is no one leadership style that can be regarded as universal, scholars have offered a wide range of leadership philosophies across time. A good or successful leader inspires, encourages, and guides actions to assist achieve group or organizational goals despite the many different types of leadership that exist. Trustworthy leaders inspire a sense of commitment and pride in work; encourage subordinates to perform organizational citizenship behaviours (e.g., cooperative efforts), to discuss problems, and to make suggestions; and reduce job stress and psychological strain (Harvey, Kelloway and Duncan-Leiper, 2003; Wong and Cummings, 2009).

Empowering leadership

According to academics, empowering leadership is the act of delegating authority and responsibility to followers, teams, or collectives through a certain set of leader behaviours in order to increase employee internal motivation and achieve professional success (Amundsen and Martinsen, 2014; Sharma and Kirkman, 2015). The benefits of empowering leadership are frequently said to be mostly good, humanistic, and virtuous since the idea of empowering leadership has been established in accordance with a stream of supportive studies (Zhang and Bartol, 2010; Chen *et al.*, 2011). As a result, interest in the efficacy of empowering leadership, particularly focused on its positive side, is growing among academics and practitioners (see Lee, Willis, and Tian, 2018). However, prior research in this area has been contested (Sharma and Kirkman, 2015) and experimentally demonstrated to have inconsistent and conflicting findings about the efficacy of empowering leadership, at least to some extent (Cheong *et al.*, 2016; Kim *et al.*, 2017; Wong and Giessner, 2018). As a result, interest in the efficacy of empowering leadership, particularly focused on its positive side, is growing among academics and practitioners (see Lee, Willis and Tian, 2018). However, prior research in this area has been contested (Sharma and Kirkman, 2015) and experimentally demonstrated to have inconsistent and conflicting findings about the efficacy of empowering leadership, at least to some extent (Cheong *et al.*, 2016; Wong and Giessner, 2018). The significance of leadership conduct in establishing and sustaining high levels of trust in nursing work contexts has already been highlighted by Kerfoot (1998). Additionally, it was discovered (Brower, Schoorman and Tan, 2000; Dirks and Ferrin, 2002) that perceived organizational support is a predictor of manager trust since it entails favourable reciprocal interactions between people and the organization.

Quality care in health organization

According to Cleary and McNeil (1988) establishing the quality of care necessitates describing the characteristics of the care offered as well as standards for what good care entails. Although there are many different types of activities involved in the management of health, those activities can be split into two categories: interpersonal and technological. Technical care was defined by Donabedian as "the management of a human health condition using the science and technology of medicine and other health sciences" in 1988. The social-psychological elements of the doctor-patient relationship are included in the interpersonal components of treatment. The "amenities"

were another term Donabedian used to describe a third aspect of care. Despite the difficulty in defining what constitutes high-quality technical care, there is a substantial body of information in this field (Mulugeta *et al.*, 2019). What is commonly forgotten, however, is that patients may contribute significantly to defining what quality care entails by deciding what values should be connected to certain outcomes. Quality interpersonal care is harder to describe, but in general, it should adhere to socially prescribed standards for how people should behave. It's crucial to keep in mind, nevertheless, that the calibre of human interactions can have an impact on the standard of the technical treatment given. Donabedian has outlined three methods for evaluating quality: structure, process, and outcome observation. Structure describes the largely constant qualities of the caretakers, their assets, and the institutional and physical environments in which they operate. However, the judgment of quality is based on what is understood about the linkages between process and the consequences of the process for the health and welfare of individuals and society. The actual process of care is the main object of assessment. The standards of scientific medicine, as well as the ethics and values, are used to define the quality of the care process. There are several reasons to emphasize outcome measures more. The most prevalent outcome metrics, including mortality, are frequently too rare to identify slight variations in care and frequently show up too late after the care to be helpful. Furthermore, variations in case mix and other factors unrelated to the care method typically account for a considerable portion of the variability in death and serious complications. More and more, researchers are asking patients to rate the effectiveness of their medical treatment, but the majority of studies of patient satisfaction that concentrate on effectiveness are primarily interested in the relationship between expectations and what actually happened during and after the episode of care. It is crucial therefore to comprehend how empowering leadership relates to the quality of care in the healthcare system in light of the scholastic definition by reviewing the literature.

Empowering Leadership and Quality Care

Leadership and care quality are directly correlated with one another (Hiscock and Shuldham, 2008). This has been highlighted by the Commission for Healthcare Audit and Inspection, London. In their report “Learning from Investigations” (Healthcare Commission, 2008) where leadership was one of the most critical factors in providing good, safe and dignified care. They come to the conclusion that effective governance and service delivery depend on good leadership for the organization's direction and culture development. fostering its culture, ensuring service

delivery, and preserving efficient governance. This is relevant to healthcare organizations with the aim to provide excellent, safe, and compassionate care to patients. Burdett Trust for Nursing, (2006) shows that leaders who have brought quality care to the fore have skills, confidence and tenacity that have enabled them to achieve this against competing interests. They are leaders who are empowered to have a sophisticated grasp of their organisational and political context and the ability to tailor their leadership style accordingly. Hence, Leadership Development (Empowering leadership) is important in quality healthcare in organizations (Donetto, Tsianakas and Robert, 2014).

Others are given leadership roles, while some leaders develop through their influence and the help or recognition of the staff around them. Other types of leadership within health services were identified in a study by Flodgren *et al.*, (2019). These are leaders whose contribution to quality is regarded as significant. These are the "opinion leaders" who have been demonstrated to have the power to change the direction of evidence-based healthcare (Flodgren *et al.*, 2019). Such leadership abilities are very valuable in the clinical setting, provided they are appropriately aligned with the organization's overall goals, as they can improve the standard of care provided to patients. Although not many studies have examined the direct relationship between empowering leadership and quality care, some studies have examined relationships with some common variables. For instance, Sfantou *et al.* (2017) and Kumar (2013) found a strong relationship between leadership and quality of care and concluded that clinicians who assume leadership roles to promote quality healthcare are well placed to overcome barriers but need to adopt a style of leadership that is inclusive and meets the needs of healthcare professionals. In a review of the literature made by Ajmi and Aase (2021), they found Fifty-two studies reporting 63 evaluations of the association between clinical experience and healthcare quality. Out of which 43% of evaluations found a positive positive association between physicians' clinical experience and healthcare quality; 22 (35%) found no association; and 14 (22%) evaluations reported a negative or partially negative association. This showed no clear evidence of an association between clinical experience and overall healthcare quality. Also, a literatyre review by Lee *et al.*, (2019) found that, out of the 17 studies that met the study criteria for review, the most notable result was a large array of nonsignificant and inconsistent relationships between safety culture and patient safety and quality of care outcomes. Several studies (Alloubani *et al.*, 2019; Bowen

et al., 2019; Brown, 2020; Curry *et al.*, 2020; Syakur *et al.*, 2020) have reported an average of 80% positive association between communication and leadership.

It is in this view that we conduct this study to examine the thematic evolution of the literature related to empowering leadership and quality of healthcare before an ongoing crisis and war in Ukraine and also analyze whether the variables Leadership and Quality of Healthcare are related to benefit the current investments made in healthcare service.

CHAPTER 3. METHODOLOGY

This study employs a systematic quantitative approach to map and review existing healthcare studies concerning empowering leadership and quality of care. A systematic quantitative literature review emphasizes a systematic process of the literature search, extraction and synthesis, which is articulated and justified in the reporting. To enhance the quality of reporting and the traceability of the process, a reporting Prisma flowchart (Navathe *et al.*, 2013) was used to register the number of studies included and excluded at different stages of the literature search. To expand our understanding, measure, and evaluate published scientific articles, on Empowering Leadership and Quality of healthcare, we performed a systematic scientific and multidisciplinary literature review, starting with a search of publications on the Web of Science (WoS) database from Clarivate Analytics and used the data for bibliometric analysis. The study was divided into two stages: data collection and bibliometric and review. The data-collecting process entails searching the web of science for literature, while the bibliometric analysis focuses on giving objective and quantifiable facts, knowledge structures, social, intellectual, and conceptual framework to comprehend the scientific field's trajectories. To demonstrate this trajectory and knowledge structure, we employed bibliometric approaches such as cooperation, co-citation, or co-word, factorial analysis, and scientific mapping. Science mapping enables for the statistical investigation and creation of a worldwide image of scientific knowledge. It primarily uses the three knowledge structures to show structural and dynamic features of scientific study as well as to discover representations of intellectual relationships. These structures contribute to a comprehensive perspective of knowledge: the conceptual structure, which identifies what science is debating, as well as the primary topics and trends; and the intellectual structure, which describes how a certain author's work impacts a specific scientific community.

Data collection and search strategy

One of the most comprehensive electronic information databases with a scientific and multidisciplinary focus, Web of Science (WoS) from Clarivate Analytics was used to obtain the data for this study. The from Web of Science (WoS) database from Clarivate Analytics, one of the most comprehensive sources, with a scientific and multidisciplinary nature. Data collection was carried in January 2023, via a virtual private network (VPN) connection from the University

of the Algarve. Based on the review aims, a review protocol was developed to guide the literature search; it contained information of the search keywords, databases, and screening criteria (Figueroa-Domecq *et al*., 2015). To capture research that has investigated the relationship between empowering leadership and quality of care, 'Empowering Leadership', or 'Empower leadership', or 'Leadership', or 'support', or 'supervision', and 'Quality of care', or 'patient satisfaction' as the search terms were searched for in all indexers of the Web of Science Core Collection. The authors applied the eligibility criteria associated with "Booleans" operators, in English or Portuguese (Languages) of every country. To ensure that the data were suitable, comprehensive, and comparable, the search by sources was limited (Sharif *et al.*, 2019), only those articles with impact factor, and citations (relevance), reviewed and qualified by a selected panel of recognized experts (reliability), in the field of study covered by journals. The search strategy included all publications dated from 01/01/2012 to 31/12/2022. We exported all accessible results, including citation information, bibliographic information, abstracts, and keywords, to an excel file. EndNote X8.2 software was used to eliminate duplicate publications and manage the database. After that, the final refined file was exported for analysis.

Data Analysis and visualization

For the bibliometric study, the open-source statistical program R Studio (R Core Team, 2021) was employed. We made use of the Bibliometrix 3.0.1 package and the Biblioshiny function (Aria and Cuccurullo, 2017). A data summary was created using descriptive statistics and bibliometric indicators, such as yearly publication growth and analyses of sources, authors, citations, and keywords, as well as Keywords plus.

Data from literature coding and analyses

In an attempt to analyze the connections between our target variables from published scientific literature relating to empowering leadership and quality of care, studies characteristics and empirical results regarding empowering leadership and quality of care were summarized. Evidence from literature regarding each concerning empowering leadership and quality of care and variables that they were assessed against was calculated based on the percentage of independent samples supporting each association at a significance level set at 0.05 for both bivariate (BA) and multivariate analysis (MA). A system, developed by Teixeira, Ferreira and

Santos, (2012), was adopted to classify the associations between variables that relate empowering leadership and quality of care as follows: positive (++) or negative (--) for percentage ≥75% and (+) or (-) for percentage between 50–75% showing associations in both BA and MA; 0/+ or 0/- when the evidence was split between no association (0) and positive or negative associations, respectively; and (?) for results indicating inconsistent findings or indeterminate results due to a small number of studies available.

CHAPTER 4. RESULTS

The analysis of the findings provided from the selected papers is discussed under each theme in this chapter. The themes are generated using the deductive approach which entails forming the themes based on the preconceived notion of what is expected from the investigation. The themes in other words are generated from the objectives of the study. It is an indication that it is an effective method of generating themes for the systematic literature review (Xiao and Watson, 2019). The articles obtained through the selection criteria are discussed in relation to the theme.

Search Outcome

From the search of keywords; 'Empowering Leadership', or 'Empower leadership'', or 'Leadership'; or ''support'', or ''support'', or ''supervision'', and ''Quality of Healthcare '', or ''patient satisfaction'' in WoS, we obtained a total of 5,518 publications. After applying the eligibility criteria, combined with the "booleans" operators, we obtained a total of 1142 articles, according to Table 1. The bibliometric data were then exported for further analysis in R using the package bibliometrix and the command biblioshiny().

Table 1- Number of articles found per search.

Search Criteria	**WoS articles**
Empowering Leadership OR Empower leadership OR Leadership OR support OR supervision AND Quality of Healthcare, OR patient satisfaction | Timespan = All years | language = All	5,518
Booleans operators | Timespan = 2012-01-01 to 2022-12-31 (Publication Date) | language = English	2,975
Refined search AND Healthcare	1,516
Remove duplications (articles used in the bibiliometrix analysis)	1,142

Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram for the systematic literature review which included searches of Web of Science database is shown in figure 1.

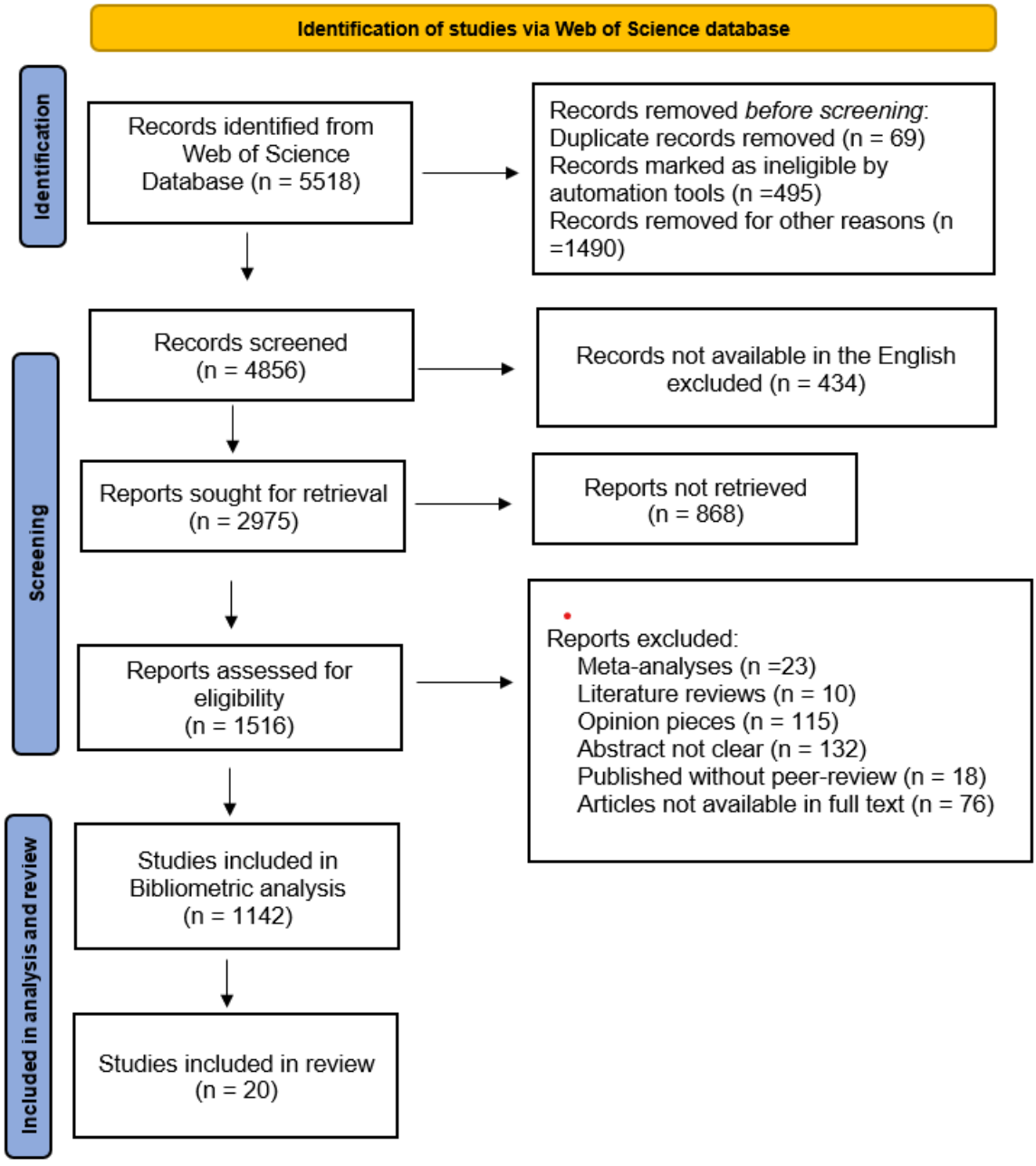


Figure 1: The PRISMA flow diagram for the systematic literature review which included searches of Web of Science database

Main information from search results

The following table (table 2) indicates the main information of the dataset that is understudy. We found 1142 articles published by 5645 authors in 268 sources from WoS database for the period 2012–2022 were selected. 44 of these research articles were authored by single authors and the remaining articles were coauthored. The annual growth rate of these articles was found to be 2.14 per year.

Table 2. A table showing the main information from search results including the description and results.

Description	**Results**
MAIN INFORMATION ABOUT DATA	
Timespan	01.01.2012:31.01.2022
Sources (Journals, Books, etc)	268
Documents	1142
Annual Growth Rate %	2.14
Document Average Age	5.57
Average citations per doc	15.08
References	35472
DOCUMENT CONTENTS	
Keywords Plus (ID)	1689
Author's Keywords (DE)	2571
AUTHORS	
Authors	5645
Authors of single-authored docs	44
AUTHORS COLLABORATION	
Single-authored docs	46
Co-Authors per Doc	5.64
International co-authorships %	21.72
DOCUMENT TYPES	
Article	1139
Article; Proceedings Paper	3

Authors, Sources and source dynamics

We found 5645 authors with an average of 2.14 articles per author. 268 scientific journals published the 1142 articles. We identified BMC Health Service Research as the leading publisher with 76 articles followed by BMJ open with 54 articles and BMJ quality and Safety as the third publisher with 42 articles as shown in Fig. 2.

Figure 2. Most relevant source of publication.

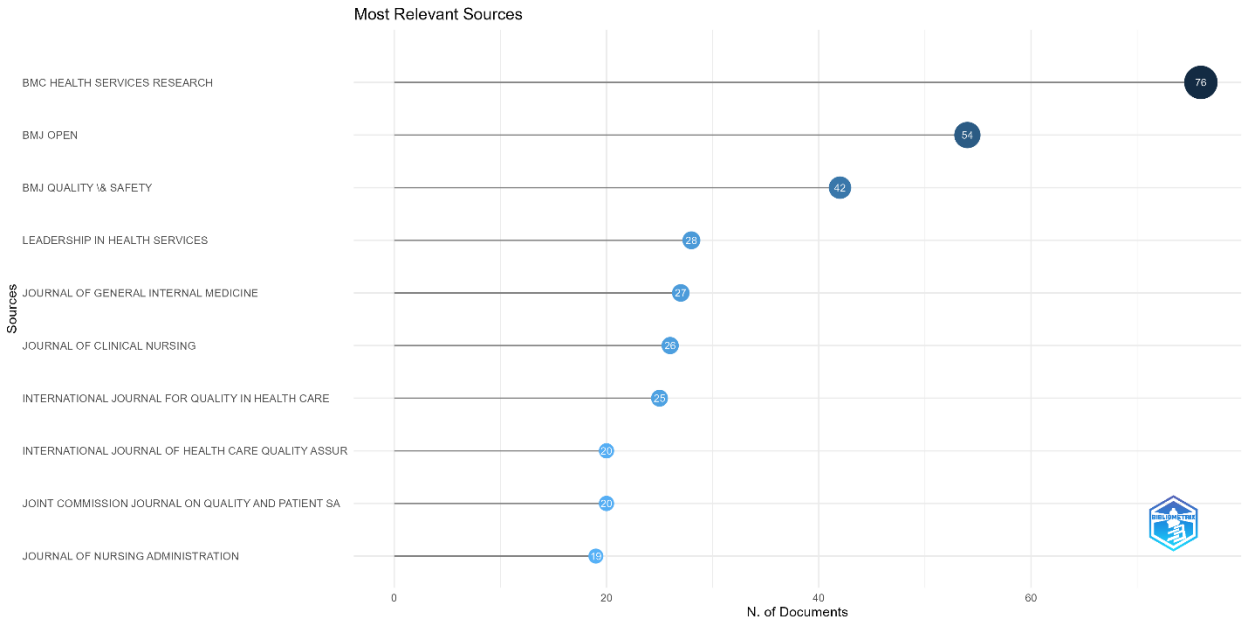
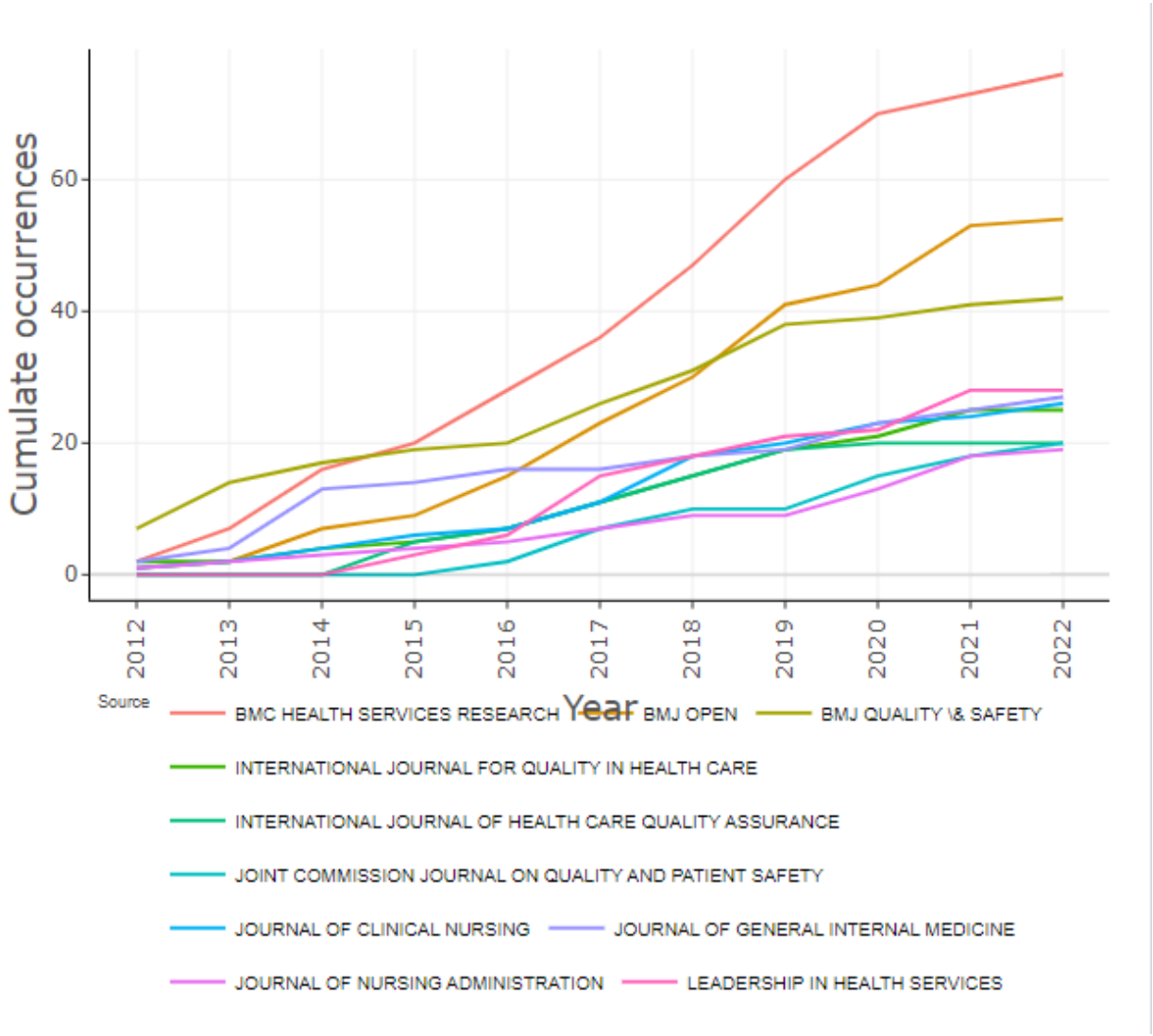


Figure 3 shows the cumulative occurrence of this publication source over the years and their growth in them. This shows that the dynamic of the time-dependent occurrences of publication sources is on the increase. The number of all publications by all the top 10 journals increased over time, but some grew more dynamically than others. The journal with the highest increase in occurrences over time was BMC Health Service Research followed by BMJ open and BMJ Quality and Safety.

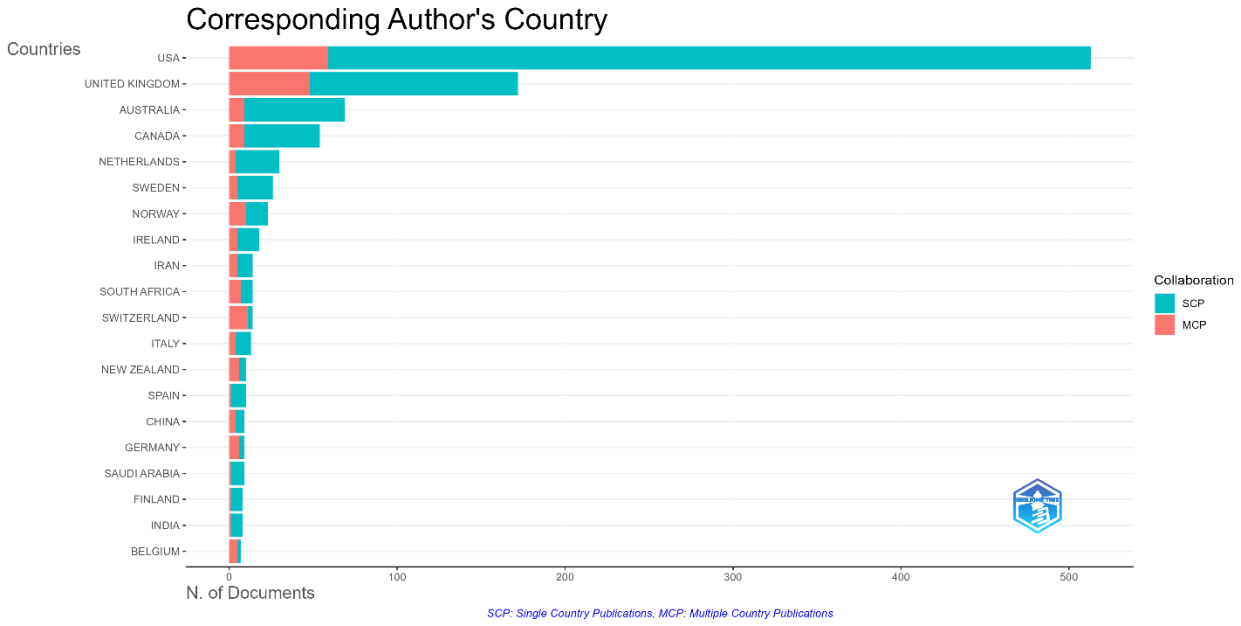
Figure 3. Cumulative occurrence of top publication sources over the years and the growth in them



Countries Scientific Productivity

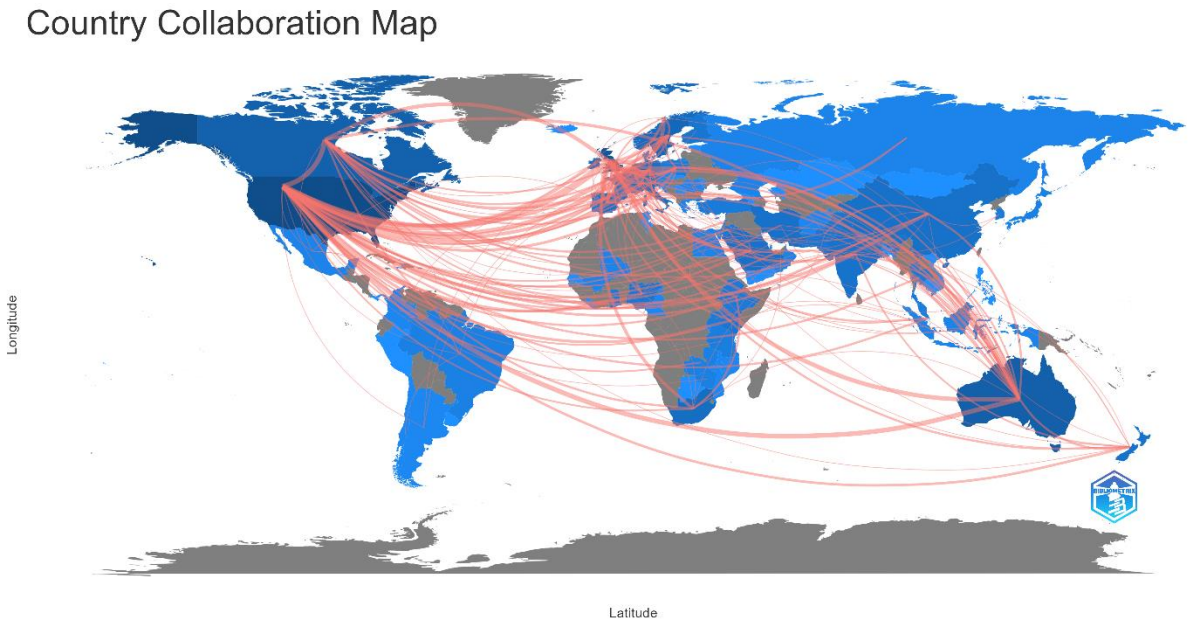
In general, we identified the contribution of 64 countries. The USA is the country with the highest number of publications with 513 articles out of which 454 are Single Country Publication (SCI) and 59 are Multiple Country Publications (MCP). The United Kingdom followed with 172 articles of which 124 are SCI and 48 are MCI followed by Australia, Canada and the Netherlands with 69, 54 and 30 publications,60, 45, and 26 SCI articles and 9, 9 and 5 MCI articles respectively as shown in Fig. 4.

Figure 4. Trends and comparison between Single Country Publications (SCP) and Multiple Country Publications (MCP) for countries' productivity over the last decade.



Also, through the collaboration networks, the social structure analysis shows a close relationship between authors, institutions, and countries. We also found a strong collaboration between the USA and the United Kingdom with 36 publications, followed by USA and Canada with 18 publications as shown in Fig. 5. The United State of America, Australia, and Canada were found to be at the centre of the collaboration cycle, serving as a link between other continents and countries.

Figure 5. Trends and comparison between Single Country Publications (SCP) and Multiple Country Publications (MCP) for countries' productivity over the last decade.



Keywords and Keywords-Plus

The researchers listed the 1142 articles with 2570 keywords and 1688 keywords-plus by WoS. Keywords-plus are more efficient than the author's keywords for bibliometric analysis purposes when looking at the knowledge structure of scientific areas, but they are less thorough in expressing an article's content (Zhang *et al.*, 2016). The term in the spotlight from WoS keyword-plus was "quality," which appeared 196 times, followed by "care," "healthcare," "Impact," and "leadership," which appeared 179, 147, 130, and 129 times, respectively. Two tag clouds (Fig. 6) with the top 50 keywords and keywords-plus were constructed to make it easier to grasp the critical phrase and compare the various sources.

Figure 6. Two tag word clouds of the top-50 keywords-plus (left) and keywords (right)

Thematic evolution of scientific literature, before and during the crises period (COVID-19 and war in Ukraine)

Despite the fact that the time frame under study is between 2012 and 2022, to answer the question relating to the evolution of literature, we highlight two periods: 2012 to 2018 (which represents the time before the pandemic) and 2019 to 2022 (which represents the crisis period) in order to better understand the evolution of the scientific literature during COVID 19 and the war in Ukraine. Then, for these two eras, we examine the output of scholarly writing, international partnerships, knowledge structure, and changes in the use of keywords-plus. Table 3 shows a comparison between the main information of the dataset that is the understudy for the two periods. We found 686 articles published by 2905 authors in 192 sources with an annual growth rate of 13.19% before the crisis period while 456 by 2980 published in 170 journals from WoS database with an annual growth rate of 16.83% were found during the crisis period. The percentage of international co-authorship articles increased from 20.12% before the crisis to 24.12% during the crisis.

Table 3. Comparison between the main information of the dataset that is an understudy for the two periods

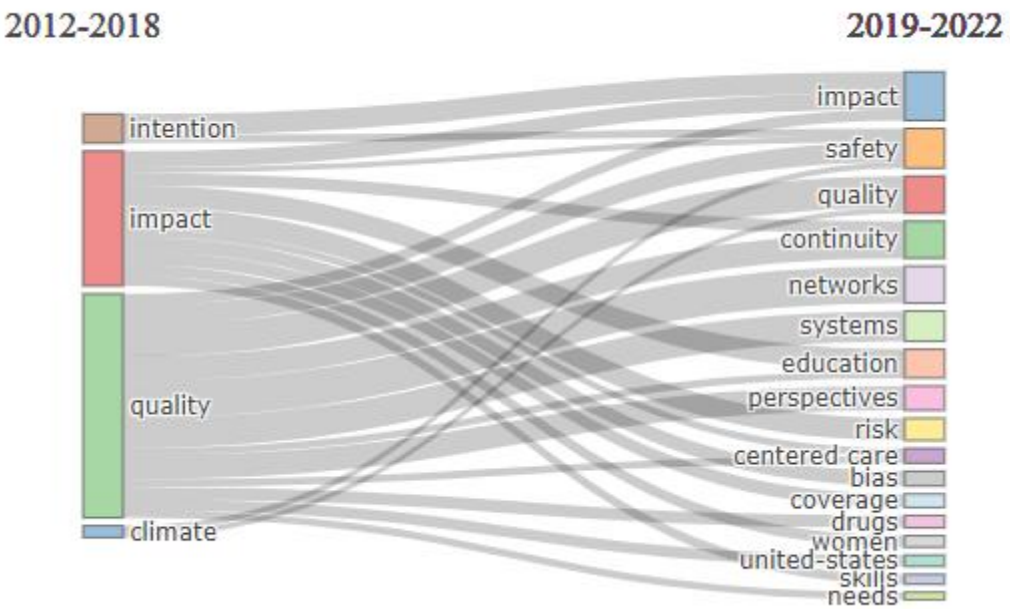
Description	**Results**	
Timespan	2012:2018	2019:2022
Sources (Journals, Books, etc)	192	170
Documents / Article	686	456
Annual Growth Rate %	13.19	16.83
Document Average Age	7.5	2.68
Average citations per doc	21.5	5.414
References	21312	16535
Document Contents		
Keywords Plus (ID)	1274	832
Author's Keywords (DE)	1672	1316
Authors		
Authors	2905	2980
Authors of single-authored docs	24	21
Authors Collaboration		
Single-authored docs	24	22
Co-Authors per Doc	4.83	6.87
International co-authorships %	20.12	24.12

Thematic evolution of Keyword-plus

The analysis of the evolution of keyword-plus shows a change in the use of keyword-plus over the years. As we can see, themes based on keywords Plus have evolved throughout time. Thematic evolution of keyword plus shows four primary topics between 2012-2018, which then transitioned to a series of new themes between 2019-2022. Specifically, between 2012-2018, "quality" and “impact” were the major prevailing words which have remained a key area of research. Between 2019-2022, "quality" continued to prevail but split into other areas such as safety, continuity, networks, systems, education, perspective, centered care, skills and needs. “impact” on the other hand followed the same split with the addition of new research areas such

as women and bias. Although “intention” and “climate was major” focus in 2012-2018, and in 2019-2022, these research areas gave way to safety, impact needs and skills.

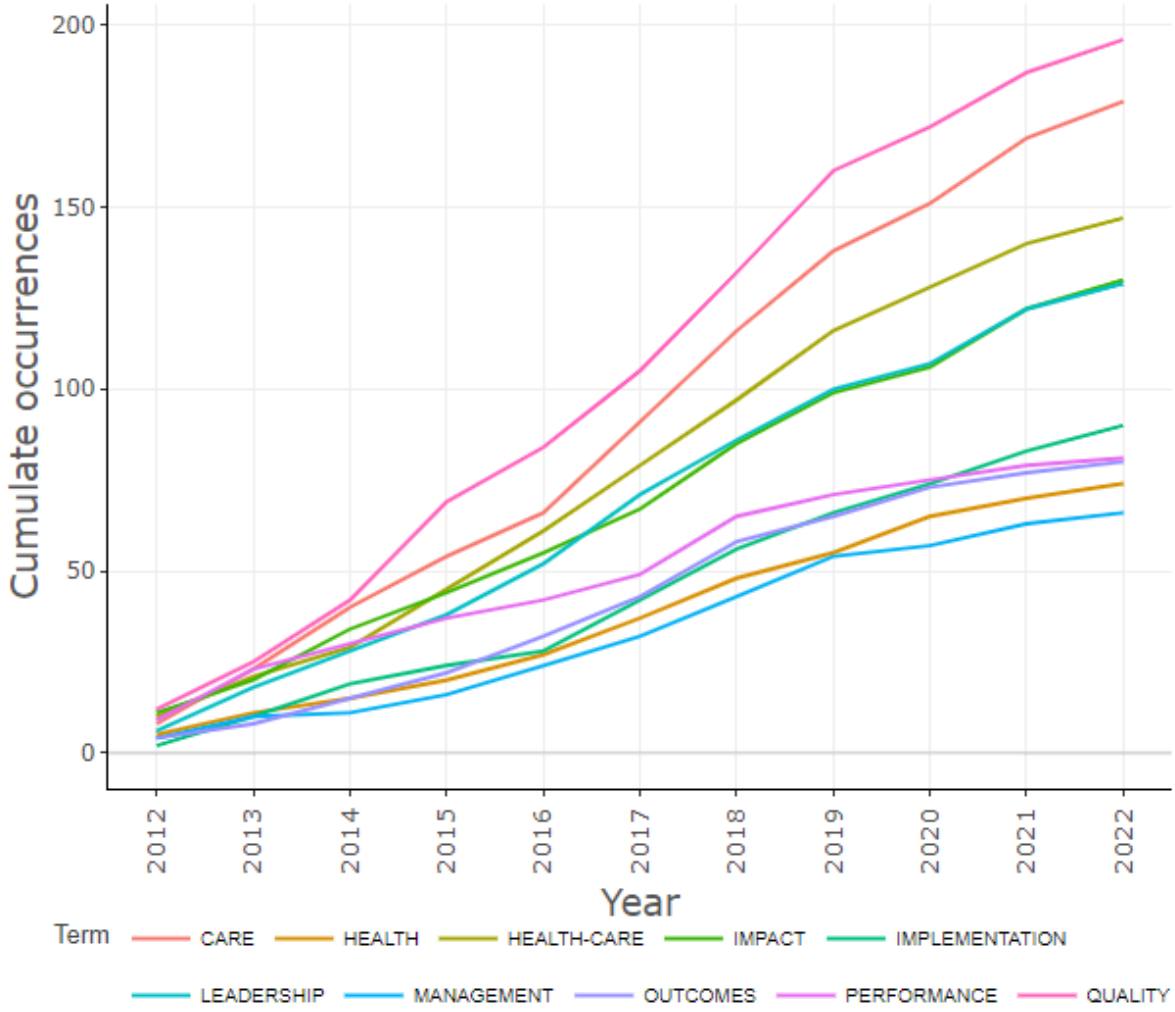
Figure 7: Thematic evolution of Keyword-plus over the last decade.



Cumulative occurrence and dynamics in keyword-plus

Analysis of the top 10 keywords plus shows growth in the use of these words over the year. The number of all these research areas per year increased over time, but some grew more dynamically than others. The terms with the highest increase in occurrences over time were ‘quality’ which has an increased occurrence rate per year of 98.8, followed by “care”, “Healthcare”, “impact”, “leadership” and “implementation” with an occurrence rate of 85.6, 72.6, 64.8 and 40.4 respectively.

Figure 8. Cumulative occurrence and dynamics in keyword-plus



Structures of knowledge

To identify the structure of knowledge in this bibliometric analysis, we examine the conceptual, and social structure of knowledge over the past decade taking into account the pre-crisis and the crises era.

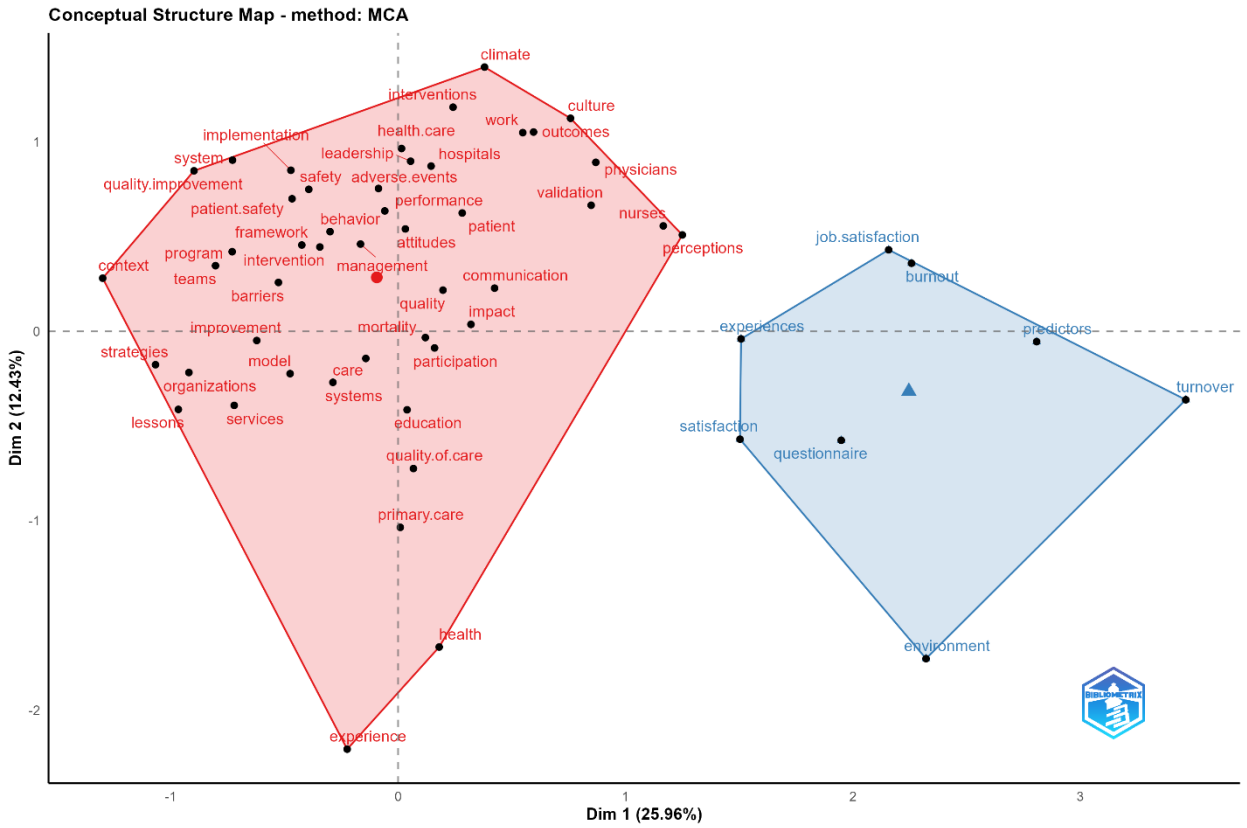
The conceptual structure of knowledge

We utilized the conceptual framework to study the links between concepts and words in a series of publications in order to map what the scientific community is looking at and examine the numerous themes produced by research. We use two methods to map the conceptual structure: a co-words network and factor analysis.

The keywords were then factored using the Multiple Correspondence Analysis (MCA) methods, and the dimensionality of the data was represented via a conceptual structure map. This analyzes the connections between the keywords and their proximity to a source term. This was done for the first period before the crises (2012-2018) and the second period during the pandemic (2019-2022). Fig. 9 and Fig. 10 depicts the factorial analysis of conceptual structure map-method using the Multiple Correspondence analysis of high-frequency keywords before the crises (2012-2018) and the second period during the ongoing crises (2019-2022) respectively.

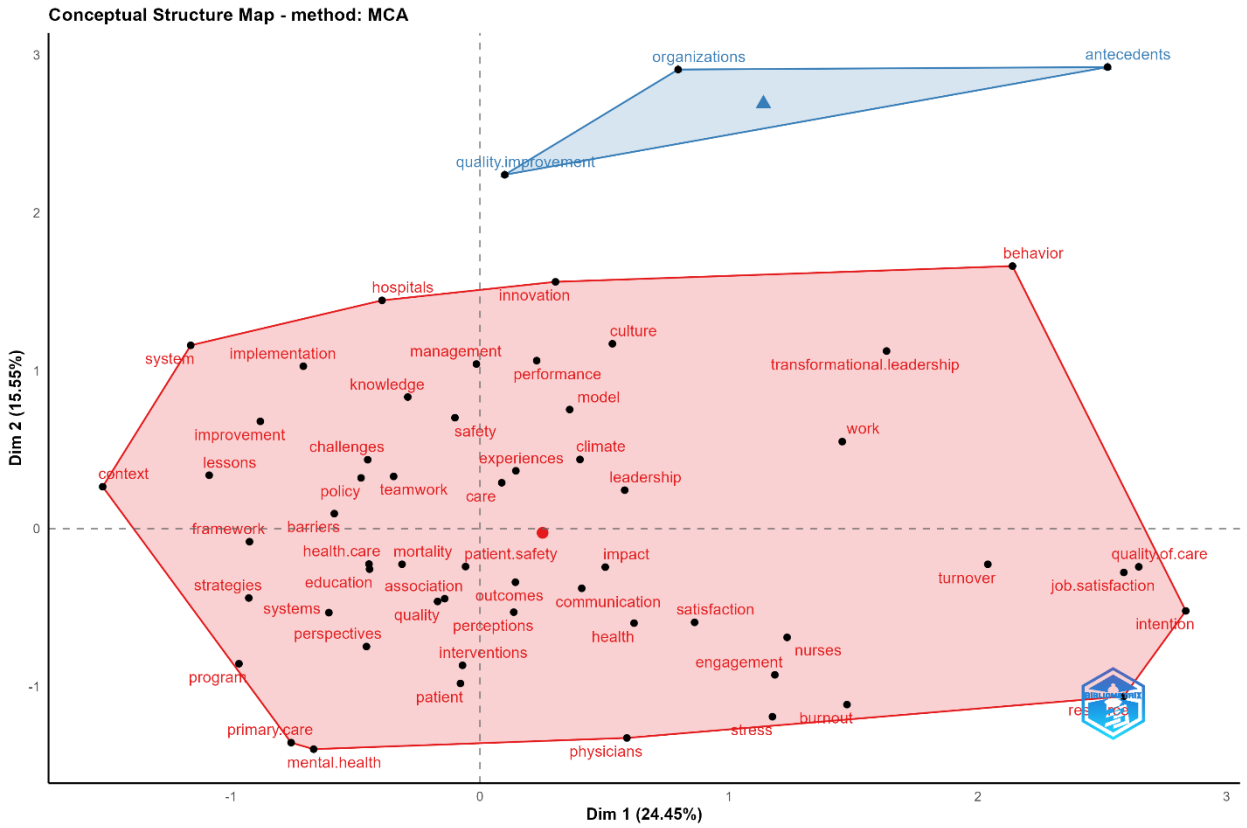
The conceptual organization of the keywords associated with the articles studied in this study condenses voluminous data containing a variety of variables into a low-dimensional space to produce a comprehensible two-dimensional graph that uses plane distance to depict keyword similarity. In recent years, there has been a lot of interest in keywords pointing in that direction (Lozano *et al.*, 2020). The distribution of the points along the dimensions and their relative placements are used to interpret the results; the more similarly distributed words are shown on the map, the closer the words are shown on the map. A comprehensible two-dimensional graph is produced by compressing a lot of data with different variables into a low-dimensional space using the conceptual structure of the keywords associated with the articles included in this study. Based on the relative positions of the points and their distribution along the dimensions, the results are interpreted; the closer words are represented in the map, the more similar their distribution is (Aria and Cuccurullo, 2017).

Figure 9. A dendrogram of factorial analysis of conceptual structure map-method: Multiple Correspondence analysis of high-frequency keywords before the crises (2012-2018)



Before the crisis period, there are two clusters of terms, each represented by a different hue and representing a separate theme. Cluster 1 (red) contains 47 keywords that revolves around "management " and "leadership" explaining 25.96% of the variance. Cluster 2 (blue) has 8 terms revolving around “job satisfaction”, “experiences”, “environment”, “context” and “turnover” which also explains 12.43% of the variance.

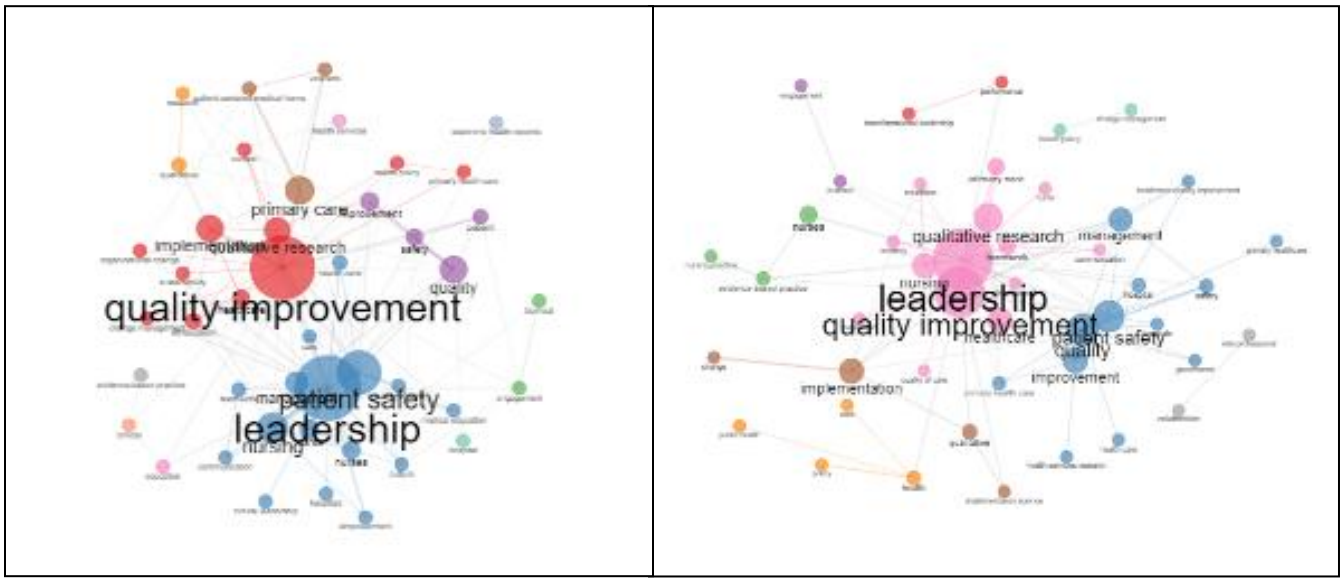
Figure 10. A dendrogram of factorial analysis of conceptual structure map-method: Multiple Correspondence analysis of high-frequency keywords before the crises (2019-2022)



Similarly, during the current crisis, there are two term clusters that each represent a distinct theme by using a different color. While Cluster 2 (blue) has 3 terms ("quality improvement," "organizations," and "antecedents") that also explain 15.55 percent of the variance, Cluster 1 (red) contains 55 keywords related to "leadership," "patient safety," "care," and healthcare. These groups imply that the keywords appear together when indexing the articles.

The mapping of authors' keywords (Fig. 11) revealed that keywords such as quality improvement and leadership are closely related and frequently co-occur in publication before the crises (Fig. 11 left) and during the ongoing crises (Fig. 11 right).

Figure 11. Authors co-word network



Social Structure of Knowledge

Social Structure of Knowledge before and after the crises

We identified the contribution of 46 countries that have collaborated to produce 222 articles before the crisis period. The USA is the most outstanding country with the highest number of publications and collaborations with other countries in the world. Countries such as the Netherlands, Spain, Poland Germany and Norway were also found to form a cluster of research collaboration between themselves with multiple papers although there are occasional collaborations with other countries, the collaboration is stronger within these countries. In another cluster, African countries south Africa was found to be the pivot for collaboration with other African countries such as Nigeria and Ethiopia as well as India, Canada and New Zealand. Portugal was found to have collaborated with only Germany as shown in Fig. 12.

Our analysis of country collaboration networking during the crisis identified the contribution of 47 countries who have collaborated to produce 245 articles in this field during the crisis period. Although the social structure analysis shows a close relationship between European countries, we found the USA to be at the center of these collaborations as shown in Fig 13.

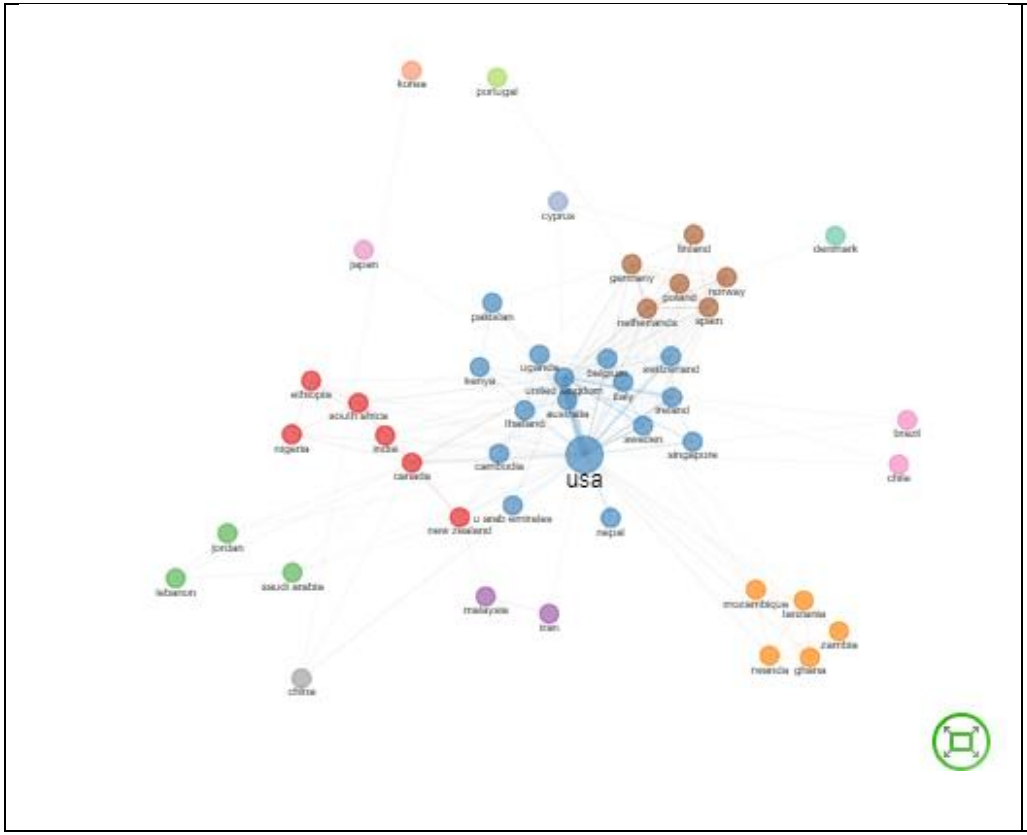


Figure 12. Country collaboration networking before the crises.

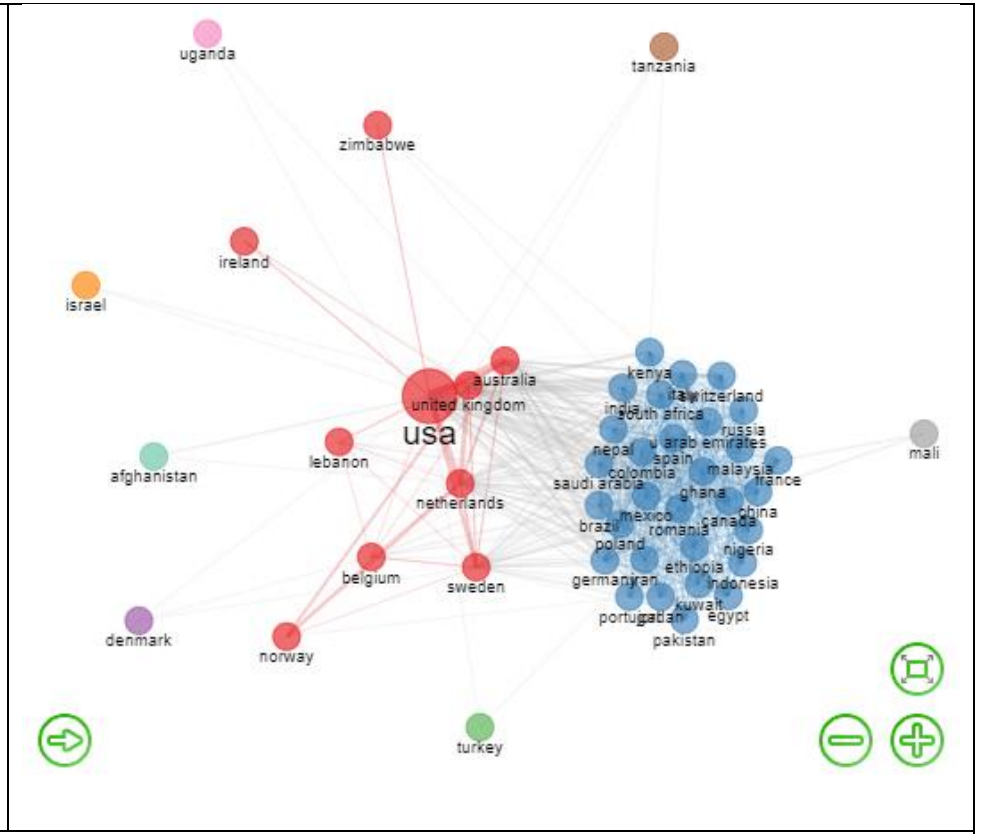


Figure 13. Country collaboration networking during the crises.

Association between empowering leadership variable and quality of care variables

The 20 articles included in this review comprised a total of twenty independent samples. Although none of these articles examined the direct relationship between empowering leadership and quality of healthcare most of the studies examined the relationship between empowering leadership and other variables such as: Experience, patience safety, innovation, performance and satisfaction where a strong positive relationship was found as shown in table 4. With regards to Quality of care, a strong positive connection was found with leadership, Experience, primary care, communication, policy and satisfaction, while an inconclusive result was found with patient safety, implementation and management as shown in table 4.

Table 4. Summary of variables related with empowering leadership and quality of care tested in 20 reviewed articles.

Variables	Empowering Leadership					Quality of care				
	N	**+**	**-**	**0**	**Outcome**	**N**	**+**	**-**	**0**	**Outcome**
Leadership	19	12	6	1	+	18	13	3	2	+ +
Experience	17	13	3	1	+ +	19	17	0	2	+ +
Primary Care	19	11	4	4	+	14	11	1	2	+ +
Patient Safety	16	14	0	2	+ +	4	2	0	2	**?**
Healthcare	6	3	1	2	**?**	8	7	0	1	+ +
Implementation	12	7	2	3	+	19	9	5	5	**?**
Management	11	5	1	5	-	9	4	1	4	**?**
Communication	11	4	3	4	-	11	10	0	1	+ +
Innovation	9	7	1	1	+ +	9	3	3	3	- -
Policy	6	2	4	0	-	6	5	1	0	+ +
Performance	18	15	0	3	+ +	17	9	4	4	+ +
Satisfaction	13	11	1	1	+ +	12	4	8	0	- -

Note: All results derived from multivariate analysis are in (parenthesis). N= Number of articles, (+) = positive association between variables, (-) = negative association between variables (o) = association not significant (?) inconsistent findings or undetermined results. Under outcome: Positive (++) or negative (- -) for percentage > or = 75%, Positive (+) or negative (-) for

percentage between 50-75% showing associations, (0/+) or (0/-) when the evidence was split between no association (0) and positive or negative associations, (?) Inconsistent findings or identifiable results due to a small number of studies available.

CHAPTER 5. DISCUSSION

The purpose of this study was to use bibliometric techniques to discover the thematic evolution of the literature related in the context before and an ongoing crisis and war in Ukraine, and in a second instance, analyze whether the variables (Leadership and Quality of Healthcare) are related in order to benefit the current investments made in healthcare service. With our initial search of key phrases encompassing all years accessible in the WoS core collection, we obtained a total of 5,518 publications. After applying the eligibility criteria, combined with the "booleans" operators, we obtained a total of 1142 articles published by 5645 authors in 268 sources from WoS database for the period 2012–2022. We found 686 articles published by 2905 authors in 192 sources with an annual growth rate of 13.19% before the crisis period while 456 by 2980 published in 170 journals from WoS database with an annual growth rate of 16.83% were found during the crisis period. The percentage of international co-authorship articles increased from 20.12% before the crisis to 24.12% during the crisis. Although more are articles were produce before the crises period, the annual growth rate and international collaboration is higher in the crises period. This increase has been observed in other research areas and reported by several researchers. For example, Shakil *et al.*, (2020), found a dramatic increase in publications on COVID-19 and a substantial decrease in non-COVID-19 research. Due to the nature of COVID 19, several researches are keen to understanding what is going on in other countries hence have resulted to collaborating with other countries in studying the impact of the crises (Chahrour *et al.*, 2020; Shakil *et al.*, 2020).

Our analysis of the Social Structure of Knowledge before and after the crises found the contribution of 46 countries that have collaborated to produce 222 articles before the crisis period. The USA is the most outstanding country with the highest number of publications and collaborations with other countries in the world. Countries such as the Netherlands, Spain, Poland Germany and Norway were also found to form a cluster of research collaboration between themselves with multiple papers although there are occasional collaborations with other countries, the collaboration is stronger within these countries. These findings confirm the research by Adams, Johnson and Grant (2022) who also found an increase in research collaboration between countries.

We also found a strong collaboration between the USA and the United Kingdom as well as Australia and USA. A strong collaboration was found between France and the United Kingdom as well as Pakistan and Malaysia. Although fewer countries were researching in this space before

the pandemic, there was a strong collaboration between countries. However, there has been an increase in the number of countries researching in this space but there are no or limited collaborations between these countries and fewer publications are being produced as a result. These findings support previous research (Zhang, Zhao, Sun, *et al*., 2020) that has shown that research productivity has increased during public health emergencies. Further analyses showed variations by countries and that while a country's prior patterns mattered in collaborating on internationally authored publications, the extent to which the country is affected by pandemics increases the likelihood they would participate in international collaboration.

Our analysis also shows a change in the use of keywords-plus over the years. Themes based on author keywords have evolved throughout time. Thematic evolution of keyword plus shows four primary topics between 2012-2018, which then transitioned to a series of new themes between 2019-2022. This finding is consistent with findings by Yahaya *et al.* (2022) who concluded that keywords plus keeps evolving in all fields of study with keywords being transitioned in new once. Specifically, between 2012-2018, "quality" and "impact" were the major prevailing words which have remained a key area of research. Between 2019-2022, "quality" continued to prevail but split into other areas such as safety, continuity, networks, systems, education, perspective, centered care, skills and needs. "Impact" on the other hand followed the same split with the addition of new research areas such as women and bias. Although "intention" and "climate was major" focus in 2012-2018, and in 2019-2022, these research areas gave way to safety, impact needs and skills. This evolutionary trend in keywords is also being observed in various fields of research, as documented by Shyju *et al* (2021). This means that the war and the pandemic have had positive impact on research work in this field. Many countries are collaborating now than before in order to operationalize strategies to support the recovery of the economy in crucial and affected areas within the health sector and the quality of health care delivery.

From the results of the review of the association between empowering leadership variable and quality of care variables from the 20 selected articles, we found no conclusive direct relationship between the variables empowering leadership and quality of healthcare. This means more research in this field as the second objective which seeks to investigate whether the variables Leadership and Quality of Healthcare are correlate in order to influence the healthcare service delivery was no met. The relationship between "Empowering Leadership" and "Quality of care" was not found because "Empowering Leadership" is a composite concept. This could also

be due to the fact that we focused our search of article to web of science, this may have limited us as the number of articles that tackle this topic. However, relationship between "Leadership" and "Quality of care", was found. Out of the 18 articles that were found to have examined the association between the two variables, 13 (76%) found a positive association between the variable, 3 (16%) found negative association and 2 (11%) found an inconclusive outcome. This shows that there is a strong positive relationship (++) between these variables as more than 75% positive association was found between the variables this supports a research work by Sfantou *et al.*, (2017) and Kumar, (2013) who found a strong relationship between leadership and quality of care and concluded that clinicians who assume leadership roles to promote quality healthcare are well placed to overcome barriers but need to adopt a style of leadership that is inclusive and meets the needs of healthcare professionals.

Also, we found a strong positive association between common variables on both, empowering leadership and quality of care. Variable such as: Leadership, Experience, Primary Care, Patient Safety, and Healthcare were strongly associated with both empowering leadership and quality of care. This findings confirms a research by Hiscock and Shuldham, (2008), who concluded base on their findings that leadership is demonstrated when there is support at the top of the organization, this enhance the quality of care that is received by patients. As well as studies by Ree and Wiig, (2020) who after interviewing 139 women on leadership, patient safety culture, work engagement and quality of healthcare services concluded that leadership has a significant impact on patient safety culture, work engagement and the quality of health care services. This shows studies over the last three decade have not focused on this theme, hence have there are no established relationship between empowering leadership and quality, however the Leadership development (Empowering leadership) is important in quality healthcare in organizations (Donetto, Tsianakas and Robert, 2014).

CHAPTER 6. CONCLUSIONS

The objectives of this study were, at first, to make known the thematic evolution of the literature related to empowering leadership and quality care in health organization the context before and an ongoing crisis and war in Ukraine, and in a second instance, analyse whether the variables (Leadership and Quality of Healthcare) are related in order to benefit the current investments made in healthcare service.

In the first instance to answer the first objective. This objective was achieved as this systematic review offers strong evidence for the proposition that the number of authors, publications, and journals, as well as the collaborative network between nations, increased during the crises period compared to the period prior to the crises. The study shows a change in the usage of keyword-plus over time, which provides clear evidence of the scientific literature's thematic evolution both before and during the crises period. Thematic evolution of keyword plus is illustrated by four main topics from 2012 to 2018, which were followed by a number of new themes from 2019 to 2022. This implies that the transformation in literature relates to the transformation and the dynamic nature of people, hence employees shouls update themselves with the current state of knowledge so as to be able to meet and improve upon their organizational culture.

For the second objective, the relationship between "Empowering Leadership" and "Quality of care" was not found because "Empowering Leadership" is a composite concept. However, relationship between "Leadership" and "Quality of Healthcare" was found. The study also provides convincing evidence for the strong positive relationship between some mutual variables of Empowering Leadership and Quality of Healthcare. Strong correlations were found between empowering leadership and Quality of Healthcare in the areas of leadership, experience, primary care, patient safety, and Healthcare. We therefore, recommend that managers of health organizations should endeavour to pay attention to empowering the leadership of their organization in order to deliver quality healthcare to their clients. The study found a that variables such Leadership, Experience, Primary Care, Patient Safety, and Healthcare were strongly associated with both empowering leadership and quality of care, the increase in thes variables contributes to the increase in quality of care so companies must adopt strategies to empower their leaders, improve their experience in the areas of primary care and ensure the safty of their patients.

Limitations of the study

This systematic review relied on a relatively limited number of databases for the identification of potentially eligible studies, although WoS is a comprehensive database it is not absolute, hence we may have missed other relevant data that are not indexed on Web of Science database.

Future research recommendations

We recommend that future research aimed at understanding the type of leadership style that promotes the delivery of quality care be carried out.

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