Research Article

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Bibliometric Evolution of Occupational Disease Research: Trends and Emerging Themes (2014–2024)

Fatma Zehra Karakurt[1], **Okan Özbakır** [2]

[1] OHS Dept. Iğdır University, Iğdır Türkiye / zehrakarakurt@outlook.com.

[2] Asist. Prof, VSHETS, Iğdır University, Iğdır Türkiye / okan.ozbakir@igdir.edu.tr

Abstract: This study aims to analyze the scientific literature published in the field of occupational diseases between 2014 and 2024 using bibliometric methods. The study examined 778 academic publications obtained from the Scopus database using the Bibliometrix package and evaluated the temporal trends of the literature, productive institutions and countries, key themes, conceptual structures, and international collaboration networks. According to the analysis results, the themes of "occupational exposure," "occupational health," "risk factors," and "human" are at the center of the literature; interest in infectious diseases and global health threats has increased, especially with the COVID-19 pandemic. The United States, the United Kingdom, and China stand out as the countries producing the most publications and collaborating at the global level, while institutions such as NIOSH, IHME, and NCI are notable as the most productive academic centers. Furthermore, keyword and thematic map analyses show that occupational disease studies are increasingly focusing on detailed, etiological, and regional risk analyses. The study aims to contribute to evidence-based policy development processes for the prevention and management of occupational diseases, while also emphasizing the need to strengthen Turkiye's position in international scientific networks.

Keywords: Occupational diseases, Occupational health and safety, Bibliometric analysis, Scientific trends

JEL Classification: I14, J01, J24

ORCID[1]: / **ORCID[2]:** 0009-0008-1196-5955 / 0000-0001-8997-9451

INTRODUCTION

The structural transformations and technological developments that emerged in the aftermath of the Industrial Revolution resulted in a substantial increase in occupational accidents and diseases. Consequently, occupational health and safety practices were elevated to a strategic priority at the national and international levels. The fundamental objective of occupational health and safety practices is to prevent workplace accidents and occupational diseases arising from occupational risks that workers may face, and to protect workers' health and ensure their quality of life (Çiçek and Öçal, 2016). In this context, occupational health and safety refers to a comprehensive approach that not only focuses on physical protection but also emphasizes the continuity of mental and social well-being, involving the systematic analysis and elimination of risks in the workplace.

The hazards that employees are exposed to in the workplace cause occupational diseases that lead to serious health problems in the long term, creating negative effects at both the individual and societal levels (Yardım et al., 2007). Occupational diseases are defined as health problems directly related to the work performed, resulting from prolonged exposure to physical, chemical, biological, ergonomic, and psychosocial risk factors in the workplace (Caner, 2021). These diseases are on the rise globally and negatively impact not only worker health but also quality of life, labor productivity, and economic sustainability. Labor force losses, disruptions in production processes, and increased health and social security expenditures increase the economic burden of these diseases (Karadeniz, 2012). Therefore, preventing occupational diseases before they occur is of great importance; in this context, detailed data analyses that form the basis for decision-making processes play a critical role.

Between 2013 and 2022, a total of 37,022 occupational cancer cases were identified and recorded in European Union countries. During the first seven years of this period, from 2013 to 2019, an average of approximately 3,909 new cases were detected each year. However, in 2020, partly due to the COVID-19 pandemic, this number fell to 3,094 cases, to 3,258 cases in 2021, and to 3,309 cases in 2022 (Eurostat). This decline is attributed to disruptions in access to healthcare services and delays in the diagnosis of occupational diseases. When examining the distribution of disease types during the relevant period, it is seen that the most frequently reported type of occupational cancer is lung and bronchial cancer, with 15,272 cases. This is followed by mesothelioma, with 14,914 cases. Mesothelioma is defined as a malignant cancer type that develops in the mesothelium, a thin membrane tissue surrounding various internal organs of the body, and is directly associated with asbestos exposure. When these two types of cancer are considered together, they account for approximately 81.5% of all reported occupational cancer cases during the period in question, making them the most prevalent types of cancer (Blanc et al., 2019).

In light of the elevated incidence of bladder cancer, it is noteworthy that the disease is among the other prevalent occupational cancers, with a total of 2,559 documented cases. When evaluated specifically for 2022, the most frequently reported cases were 1,383 mesothelioma and 1,328 lung and bronchial cancers. In the same year, bladder cancer ranked third with 143 cases, while non-melanoma skin cancers accounted for 97 cases, nasal cavity and middle ear cancers for 52 cases, and leukemia subtypes, laryngeal cancers, and other rare cancer types for 11 to 20 cases (Turner, 2024).

In the occupational disease statistics published by Eurostat, data on occupational cancers are presented directly based on the number of cases, while information on other occupational disease groups is generally shared based on the change index. In this context, a decrease of approximately 25% was recorded in total occupational disease reports across the European Union between 2013 and 2022. This overall downward trend has varied across different disease groups. In particular, significant decreases are observed in the group of lung diseases classified as pneumoconiosis. Within this group, there has been a 13% decrease in cases caused by exposure to asbestos and a 48% decrease in cases caused by exposure to silica-containing dust. This decrease can be attributed to stricter dust control measures implemented in workplaces, the ban on asbestos use, and the widespread use of personal protective equipment.

Concurrently, a substantial decrease in the prevalence of contact dermatitis cases has been observed. Specifically, there has been a 44% decline in cases of allergic contact dermatitis and a 42% decline in cases of irritant contact dermatitis. On the other hand, a limited decrease of 3% has been observed in musculoskeletal disorders (Ferrari, 2025). However, notable increases have been observed in some subcategories within this disease group. For example, a 15% increase was observed in cases of enthesopathy (soft tissue disorders around the joints) resulting from repetitive strain or ergonomic deficiencies. Similarly, a 4% increase was reported in cases of mononeuropathy (single nerve damage) caused by nerve compression or prolonged strain. These increases can be attributed to the increased load on the musculoskeletal system, particularly due to digitalization, desk-based work patterns, and static postures (Greggi, 2024).

According to data published by the US Bureau of Labor Statistics (BLS) for 2023, the number of non-fatal workplace injuries and illnesses reported by private sector employers totaled 2.6 million. This figure indicates a 8.4% decrease compared to 2022. This decline is primarily attributed to a decrease in reported cases of work-related illnesses. A thorough examination of the available data reveals a substantial decrease in the total number of recorded illness cases. In 2022, the initial figure stood at 460,700 cases. However, by 2023, this number had experienced a significant decline

of 56.6%, with the total dropping to 200,100 cases. This level is noteworthy as it represents the lowest number of cases recorded since 2019. This substantial decline in illness cases is closely related to the dramatic decrease in respiratory illnesses. In 2023, the number of respiratory-related illnesses decreased by 72.6% compared to the previous year, falling to 100,200 cases. This phenomenon can be attributed to the decline in the prevalence of infectious respiratory diseases that has occurred in the post-pandemic era, as well as the sustained impact of hygiene, isolation, and protective measures implemented in workplaces.

According to estimates by the International Labour Organization (ILO), more than 2.3 million women and men perish annually due to occupational injuries or illnesses. According to Tarim (2017), more than 350,000 deaths are caused by fatal accidents, and approximately 2 million deaths are caused by fatal work-related illnesses. Furthermore, it is estimated that more than 313 million workers are involved in non-fatal workplace accidents that result in serious injuries and absenteeism. The ILO also estimates that 160 million cases of non-fatal work-related illnesses occur each year. These estimates underscore the necessity for a novel prevention paradigm that encompasses not only occupational injuries but also work-related illnesses (Şen, 2018).

These findings demonstrate that occupational diseases are not only preventable but also traceable and measurable. They clearly show how critical data collection, reporting, and analysis systems related to occupational diseases are for policymakers and occupational health professionals. The financial implications of occupational accidents and diseases frequently exceed initial estimations. Conversely, investing in occupational health and safety (OHS) has been demonstrated to reduce both direct and indirect costs, decrease insurance premiums, and enhance performance and productivity. This phenomenon has been demonstrated to reduce absenteeism and enhance employee morale. On a national scale, this shift has the potential to reduce social security and healthcare expenditures, lower tax burdens, enhance economic performance, and expand social rights.

Analyses conducted in this regard are of great importance in revealing which countries, sectors, and occupational groups are more prone to occupational diseases. The systematic evaluation of scientific knowledge in the field of occupational health and safety (OHS) serves as a guiding resource not only for academic research but also for policymakers, employers, and practitioners.

The objective of this study is to utilize bibliometric methods to analyze global trends in scientific production in the field of occupational diseases. To this end, academic publications from 2014 to 2024 will be examined, employing a holistic approach to assess the state of research in this domain. The primary objective of the research is to examine the temporal development of scientific publications over the aforementioned ten-year period and to identify the countries, authors, institutions, and academic journals with the highest production in this field. The study's objective is twofold: first, to ascertain whether countries with the highest number of publications are those with developed industrial infrastructure and institutionalized occupational health systems; and second, to analyze the underlying structural, economic, and institutional factors contributing to this situation.

The study will also analyze the most frequently used keywords, thematic structure, and conceptual networks in publications to create knowledge clusters. The level of international scientific cooperation, citation relationships, and central actors will be revealed using bibliometric techniques. This will facilitate the visualization and analysis of the actors and information flow that are influential in the occupational diseases literature.

The present study is expected to provide an overview of the current state of the literature and guide future scientific studies by systematically mapping knowledge production in the field of occupational diseases. Moreover, the findings will furnish policy makers, employers, and implementing agencies with guidance on the prevention of occupational diseases. The study will also shed light on Turkey's position in this field and contribute to the development of national scientific capacity.

2. MATERIALS AND METHODS

2.1. Source and strategy

The study was conducted using the bibliometric analysis method. The TITLE-ABS-KEY parameter (“occupational diseases” OR “work-related illnesses” AND “occupational hazards” AND “occupational exposure”) was used when searching the Scopus database. The publications obtained from the searches using the key terms were saved in BibTeX format. The data were analyzed using the open-source Bibliometrix package based on R software (Aria & Cuccurullo, 2017). Metrics such as temporal distribution, productivity indices, collaboration maps, conceptual structure, and source interaction networks were used in the analyses. The search yielded 778 studies. The years 2014-2024 were entered when searching the Scopus database. Thus, publications containing the relevant keywords were filtered from the database using this search strategy. The access date is January 18, 2023.

3. RESULTS AND DISCUSSION

This bibliometric analysis study was conducted in the field of occupational diseases. The dataset was obtained from www.bibliometrix.org using Bibliometrix software. The time period from 2014 to 2024 was used as the basis for publications, and 778 academic studies from 322 sources were identified within this scope. A total of 5,144 authors wrote these studies, and only 57 were published by a single author. According to the analysis results, these publications have declined at an annual rate of 5.18%. This suggests that scientific output in this field has shown a slight downward trend over time. Conversely, the rate of international collaboration in preparing documents was calculated to be 24.94%, suggesting that global, interdisciplinary, and multinational research trends are reflected in academic studies on occupational diseases. The average number of authors per study was found to be 8.54, indicating a high level of collaboration. The average number of citations for the 778 documents was 25.39, showing the significant scientific impact of literature on occupational diseases. Additionally, the documents were found to have been cited a total of 29,500 times. This high number of citations underscores the importance of the subject in the academic field and the visibility of studies that contribute to it (Table 1).

Table 1. Descriptive results and details

Timespan 2014:2024	Sources 322	Documents 778	Annual Growth Rate -5.18 %
Authors 5144	Authors of single-authored d 57	International Co-Authorship 24.94 %	Co-Authors per Doc 8.54
Author's Keywords (DE) 1840	References 29500	Document Average Age 5.47	Average citations per doc 25.39

3.1. Annual scientific production of documents

Figure 1 shows the annual distribution of scientific studies produced in the field of occupational diseases between 2014 and 2024. Upon examining the relevant graph, it is noticeable that there has been a fluctuating trend in the number of annual publications. In particular, a significant increase in publication production was observed between 2014 and 2016, followed by a temporary decline in the subsequent years. However, a renewed upward trend in the number of publications emerged in the following period. This trend reached its peak in 2020 with the number of publications reaching its highest level; in the following years, a relatively limited downward trend was observed. As of 2024, the number of publications has stabilized at a more consistent level compared to previous years. These findings indicate that, despite fluctuations in academic interest in occupational diseases over time, the topic remains relevant and important.

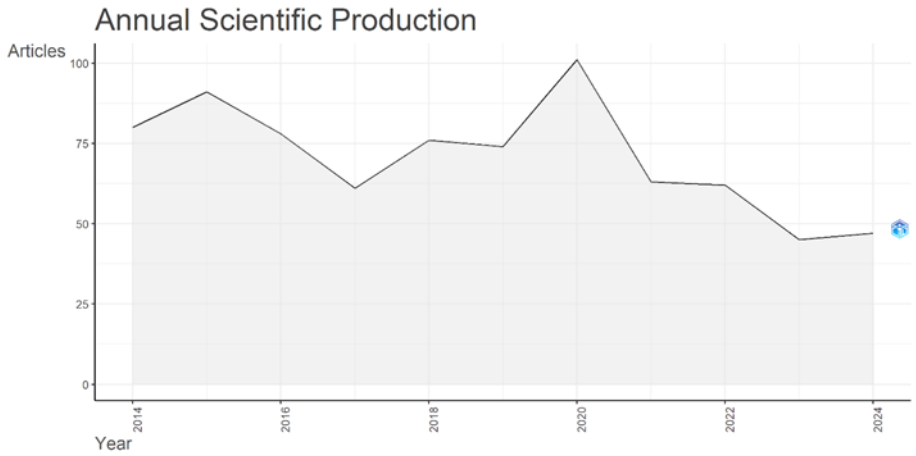


Figure 1. Anual Scientific production

Figure 2 shows the average number of citations per article by year for studies published between 2014 and 2024. Upon examining the graph, a noticeable upward trend in the average number of citations between 2014 and 2018 stands out. In particular, the fact that the citation rate reached its highest level in 2018 indicates that the topic of occupational diseases was addressed more intensively by the academic community during this period and reached a peak in scientific interest.

Following this peak, a downward trend in average citation counts began in 2019 and continued for several years. However, by 2024, a significant increase in average citation rates was observed again, indicating that the topic has

begun to re-emerge on the scientific agenda.

These fluctuations in scientific interest in occupational diseases can be shaped by many internal and external factors, such as pandemics, regulatory changes, occupational health policies, financial resources, research priorities, and global health crises (Nienhaus & Hod, 2020). Therefore, citation trends are an important indicator reflecting not only academic productivity, but also the discipline's relationship with its social and political context.

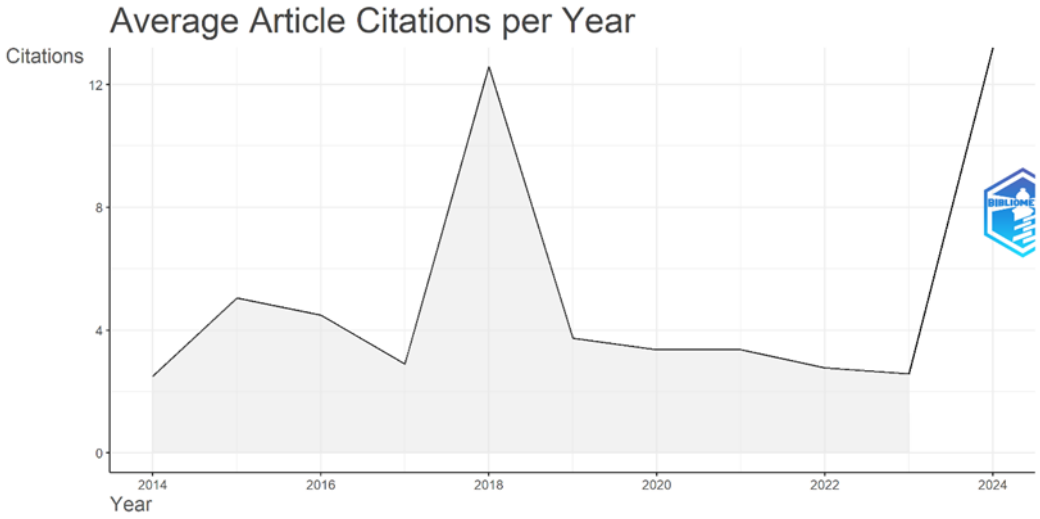


Figure 2. Average article citations per year

3.2. Most Relevant Sources

Figure 3 shows the scientific journals that produce the most academic publications in the field of occupational diseases. The Occupational and Environmental Medicine journal stands out as the source with the highest number of publications, totaling 75. This indicates that the journal plays a central role in scientific production related to occupational diseases and serves as one of the primary platforms for research in the field. Following it is the International Journal of Environmental Research and Public Health, which ranks second with 69 publications. This journal is known for its interdisciplinary studies on the effects of environmental factors on occupational health. Journals such as the Scandinavian Journal of Work, Environment and Health (25 publications), PLOS ONE (22 publications), and the Journal of Occupational and Environmental Medicine (21 publications) are among the sources that make significant contributions to the literature on both occupational health and environment-related diseases. Journals such as the Chinese Journal of Industrial Hygiene and Occupational Diseases, Archives of Environmental and Occupational Health, Environment International, Applied Ergonomics, and BMJ Open, which appear further down the list, are considered journals that provide field-specific contributions despite having fewer publications.

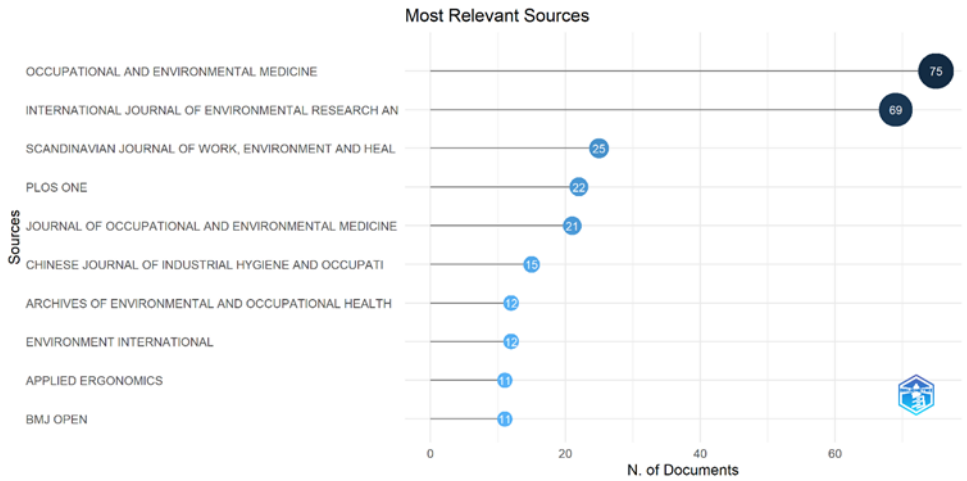


Figure 3. Most relevant sources

Looking at the work of prolific academics (Figure 4), HANSEN J and PEGA F stand out as the most prolific researchers in this field, each with 12 publications. DESCATHA A, NIENHAUS A, and PUKKALA E, with 11 publications each, GODDERIS L (10 publications), RUSHTON L and STRAIF K (9 publications each), CHEN W and LIU J (8 publications each) are also prominent in the literature. These authors are particularly prominent in academic collaborations across Europe and Asia and incorporate international partnerships into their research.

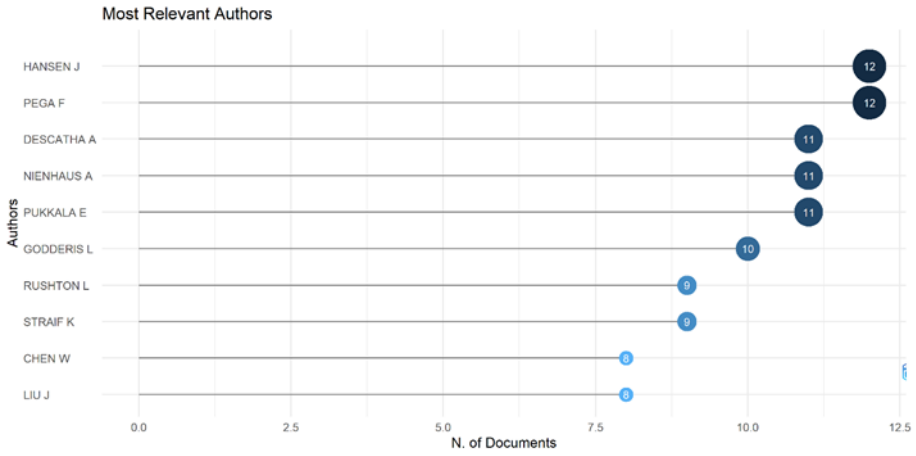


Figure 4. Most relevant authors

3.3. Country Scientific Production and affiliations

When scientific publications in the field of occupational diseases are examined, it is seen that the US has a clear leadership position in scientific production in this field (Figure 5). Among the most productive institutions, the National Institute for Occupational Safety and Health (NIOSH) ranks at the top of the list with 50 publications. NIOSH stands out for its contributions to the prevention of occupational diseases, the development of occupational safety policies, and epidemiological studies (Mona et al., 2019). In second place is the Institute for Health Metrics and Evaluation (IHME), with 48 publications, which is particularly recognized for its Global Burden of Disease (GBD) studies and analyzes various health burdens, including occupational diseases. Another important US institution, the National Cancer Institute (NCI), holds a significant place in the occupational disease literature with 46 publications. Outside the US, Tehran University of Medical Sciences in Iran stands out as the most productive university in the field of

occupational health and occupational diseases with 36 publications, focusing particularly on the exposure risks of healthcare workers. In Europe, the National Institute of Public Health (Czech Republic) has made significant contributions to strengthening occupational health surveillance systems with 34 publications. In addition, Imperial College London (United Kingdom) has conducted important work in the field of occupational health policies and risk assessment with 33 publications. The Finnish Institute of Occupational Health stands out with 29 publications on ergonomics, psychosocial risks, and work stress, while Huazhong University of Science and Technology in China has produced 29 publications focusing on industrial pollution and toxic exposures. Another institution from the United States, the Mayo Clinic, has been included in the list with 27 publications on clinical-based studies related to the treatment processes of occupational diseases.

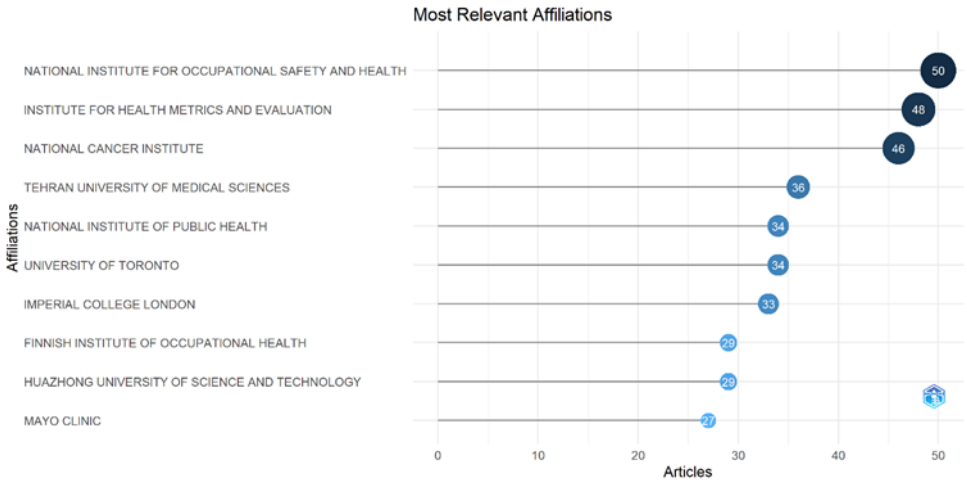


Figure 5. Most relevant affiliations

3.4. Corresponding author Intra-country and inter-country collaboration

Figure 6 illustrates the international scientific collaboration networks formed among countries based on publications about occupational diseases from 2014 to 2024. Blue countries have produced data, and red lines indicate joint publications between two countries. The thickness of the lines represents the intensity, prevalence, or frequency of collaboration.

The US is at the center of global scientific networks and has strong partnerships with countries like the UK, Canada, Germany, China, Australia, and the Netherlands. These close ties make the US one of the most important hubs for international scientific collaboration (GBD, 2016). The United Kingdom stands out as the second scientific center alongside the United States and has strong academic connections with European countries. Germany, the Netherlands, France, Italy, and the Scandinavian countries are also actively involved in European-based research projects, and strong partnerships have been established between these countries. China is notable for its intensive two-way collaborations with the United States and Australia, leveraging these global collaborations to enhance its scientific production capacity. Australia has established strong ties with the US, China, and some European countries, and plays an important role in integrating scientific publications from the Asia-Pacific region into the global academic network. European countries (Germany, the Netherlands, France, and the Scandinavian countries) are represented by a large number of academic connections and are further intensifying these collaborations through projects supported by the European Union, such as Horizon and COST. However, countries such as Iran, India, and Turkey, while participating in

international publication production, have relatively limited connections within the global academic network. Turkey's collaborations with Germany, the US, and the UK are particularly prominent on the map (Figure 7).

Figure 7 shows that scientific production in the field of occupational diseases has largely taken shape within the framework of multinational research networks and that collective knowledge production has become a widespread practice in this field. The United States, the United Kingdom, and the People's Republic of China are at the center of these international collaboration networks, while countries such as Germany, Canada, the Netherlands, and Australia stand out for their high level of academic output and deepened collaborative relationships. On the other hand, while efforts by developing countries to integrate into the global scientific knowledge network are observed, it is noted that the representation levels of these countries remain limited.

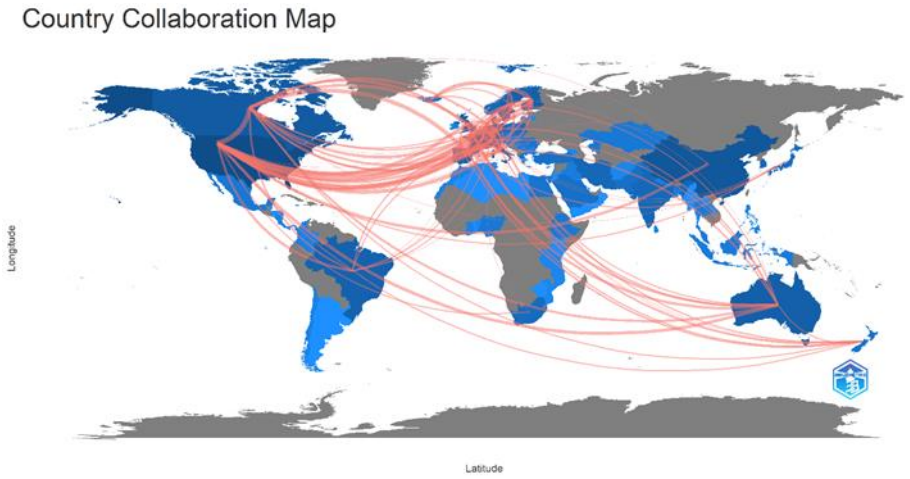


Figure 6. Country collaboration map

The United States, the only country shown in dark blue on the map, maintains its global leadership in occupational health through its institutional structures (e.g., NIOSH, CDC, NCI) and strong research funding mechanisms. While China has seen a notable increase in scientific output in recent years, the United Kingdom and Germany in particular demonstrate high levels of academic productivity thanks to their institutionalized occupational health systems. On the other hand, India, Iran, Brazil, and Turkey are among the countries with moderate publication output and are trending toward increasing their scientific productivity. This picture reveals that occupational health and safety policies in developing countries are still in the process of maturing. Therefore, it is necessary to disseminate incentive mechanisms aimed at strengthening scientific capacity in this field and to develop supportive policies.

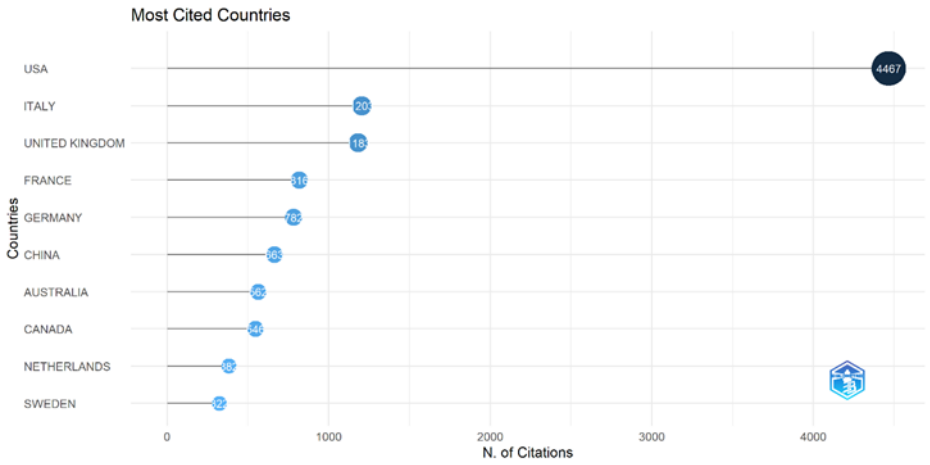


Figure 7. Most cited counties

3.5. Word cloud analysis

An examination of the keywords highlighted in the graph (Figure 8) reveals that scientific studies in the field of occupational diseases largely focus on the theme of "occupational exposure." This concept forms the core axis of research in the field and demonstrates that exposure is a decisive factor in the emergence of occupational diseases (Schink et al., 2014). Gender-based analyses (male, female) also occupy an important place in the literature, with frequent references to assessments of the different occupational risks faced by male and female workers. The intensive use of terms such as "adult," "middle-aged," "human," and "humans" indicates that the studies largely focus on the adult workforce and adopt a human-centered research approach. The term "occupational disease" emphasizes the central nature of the subject by directly referring to occupational diseases, while the term "occupational hazard" reveals a strong trend toward risk-focused studies in the field of occupational health (Table 2). These keywords show that the occupational disease literature is shaped around topics such as work-related exposures, gender-based differences, the adult worker population, and occupational risk factors. These findings are important for identifying current research trends and point to potential areas of focus for future studies.

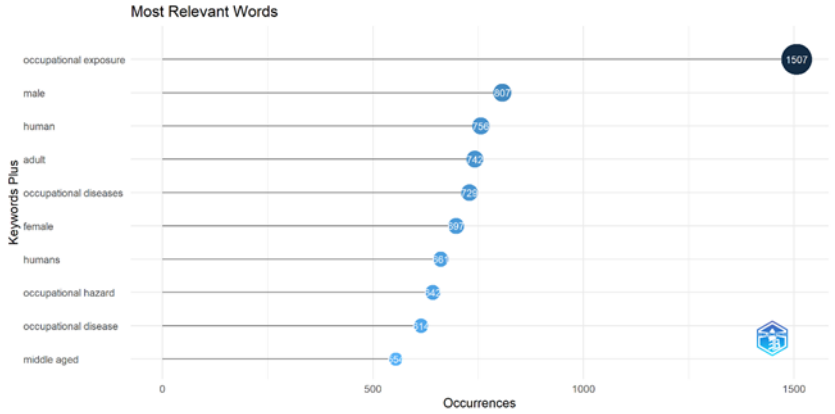
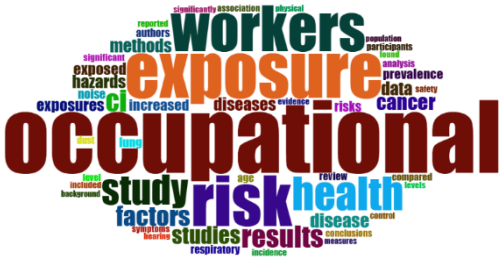


Figure 8 . Most relevant words

Table 2. Wordcloud analysis

Abstract=50	Titles=50
	
KeywordPlus= number of keywords =50	Author's keywords= 50
	

3.6. Trending Topics

Figure 9 illustrates the prominent thematic trends in the occupational disease literature between 2014 and 2024 and the intensity of use of related keywords over the years. The frequency of use of the terms is represented by the size of the bubbles, with larger bubbles indicating that the term was used more frequently in the relevant year.

During the 2014–2016 period, terms such as "organic solvent," "chemical industry," "dangerous goods," "mass screening," "dry eye syndromes," "environmental monitoring," and "air pollutant" were used intensively. This indicates that the literature in the early years focused primarily on chemical exposures, industrial hazards, environmental risk factors, and mass screening systems (Salvi, 2022).

Between 2016 and 2019, key terms related to public health and demographics, such as "occupational exposure," "risk factor," "male," "adult," "human," and "occupational diseases," came to the fore. During the same period, the prominence of terms such as "dust," "smoking," "priority journal," "adverse effects," and "statistics and numerical data" indicates an increase in methodological diversity alongside environmental factors (Unsal, 2025).

During the 2019–2021 period, terms such as "coronavirus disease 2019," "World Health Organization," "noise injury," "interstitial lung disease," "occupational disease," and "adverse event" have become significantly more prominent. This trend reflects the direct impact of the COVID-19 pandemic on occupational disease research and the new perspectives it has brought to the field.

By the 2022–2024 period, more specific and localized research areas such as "etiology," "climate change," "Ontario," "inflammation," "clinical assessment," "uranium," "quality control," and "fisherman" have come to the fore. This development indicates that the occupational disease literature is evolving into a structure that is increasingly detailed, etiology-based, and focused on regional differences.

The most frequently used keywords between 2018 and 2020 were “occupational exposure,” “occupational health,” “risk factor,” and “human,” suggesting that this period was a time when occupational health policies and scientific interest reached their peak.

The emergence of new themes such as “climate change,” “inflammation,” and “etiology” in the post-2022 period shows that occupational diseases are now being linked not only to workplace hazards but also to global health threats and environmental changes. The terms “coronavirus disease 2019” and “World Health Organization,” which intensified in 2020, highlight the pandemic's significant impact on occupational disease research.

Overall, the graph clearly reflects the transformation that occupational disease literature has undergone over the years. Studies that initially focused on industrial chemical exposure have gradually shifted toward more comprehensive topics related to human health; with the pandemic, infectious diseases have also been included in this field of research. Today, environmental and biomedical themes such as climate change, inflammation, and etiological factors at the molecular level have become prominent topics in the literature (Tekin and Demir, 2024).

In this context, it is believed that future research will contribute to the literature, particularly in areas such as climate-based health risks, the cause-and-effect relationships of diseases (etiology), the analysis of regional differences, and transformations in occupational health systems after the pandemic.

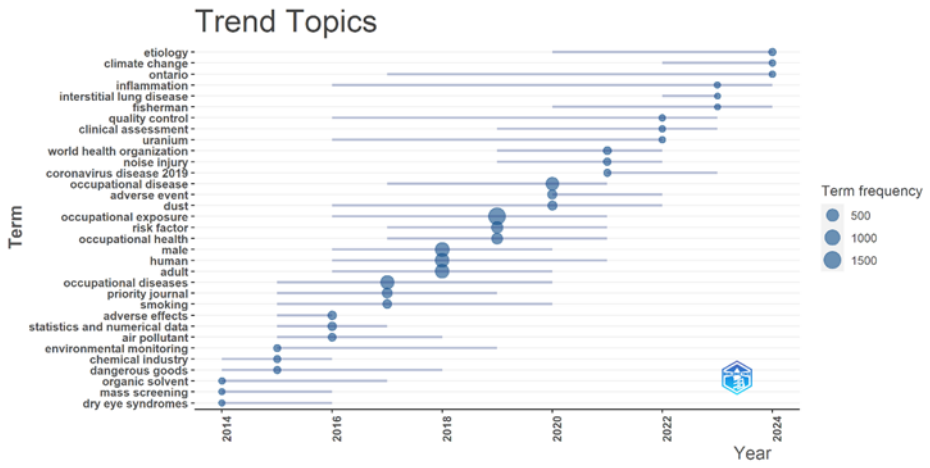


Figure 9. Trend topics

3.7. Thematic map of hotspots

The graph presented (Figure 10) is a thematic map commonly used in bibliometric analyses, classifying research themes in the occupational diseases literature based on four fundamental axes: density and centrality. This approach is important in terms of revealing both the level of development of the themes and their importance in the overall structure of the literature.

Motor themes are highly developed themes that are located at the structural center of the literature and have high centrality and density values. “Occupational exposure” is the most prominent term in this group and represents one of the fundamental dynamics of the occupational disease literature. Similarly, the terms “human” and “humans” indicate the high importance given to human-centered research and that these studies are subject to comprehensive, multidimensional analysis.

The main themes are notable for their high centrality but relatively low intensity values. “Occupational health,” “cross-sectional study,” and “questionnaire” are included in this group, representing themes that are frequently studied in the field but require further development in terms of content and methodology. In particular, “cross-sectional studies” and “questionnaire-based research” form the basis of data collection processes, but there is a need for in-depth and systematic approaches in the literature.

Niche themes are characterized by high density but relatively low centrality, focusing on specific sub-specialty areas and encompassing well-developed research fields. Terms such as “dust,” “respiratory tract disease,” and “pathophysiology” are prominent in studies focusing on occupational risk factors concentrated in specific sectors, such as mining or construction. These themes include studies with high technical and clinical depth.

Developing or declining themes are positioned at a low level in terms of both centrality and intensity; this situation indicates that the themes in question are either still in the development stage or have declined in importance in the literature. Expressions such as “cancer risk,” “occupational cancer,” and “lung cancer” are important in the context of occupational diseases, but currently appear to be the subject of a limited number of studies and lack methodological diversity.

This thematic map systematically reveals the trends in scientific production in the field of occupational diseases and summarizes the strengths and areas for improvement in the literature as follows:

The main driving force behind the literature is the theme of “occupational exposure.”

Methodological themes such as “cross-sectional studies” and “survey-based research” are areas that require further scientific depth.

Headings such as “dust” and “respiratory system diseases” are concentrated in niche areas requiring specialized expertise.

Themes such as “occupational cancer,” which are low in intensity but high in importance, stand out as research topics of high strategic value that deserve more attention in the literature.

These analysis results provide strategic guidance for future studies in the occupational diseases literature, particularly pointing to the need for more research on topics such as “occupational cancer,” which are low in centrality and intensity but critical to public health.

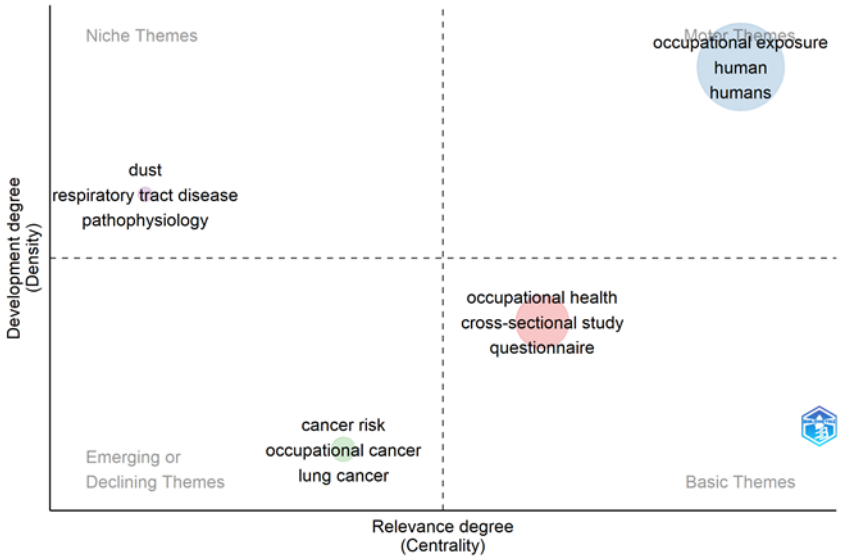


Figure 10. Thematic map of keywords

CONCLUSION

Occupational diseases are among the most significant occupational health and safety (OHS) issues, threatening individual health and social welfare in modern working life. Due to industrialization, technological transformation, and changes in workforce structure, the types, distribution, and effects of occupational diseases have become more complex. These diseases reduce the quality of life of workers and lead to negative consequences such as workforce loss, production disruptions, increased healthcare costs, and economic instability.

Analyzing the characteristics of occupational accidents, non-fatal occupational accidents, and occupational diseases is critical for setting priorities and designing effective occupational safety and health prevention strategies. Underreporting of occupational accidents is a serious problem, but the situation is even worse when it comes to occupational diseases. Compared to occupational accidents, occupational and work-related diseases remain largely invisible. In most countries, only some actual cases are diagnosed and reported. Physicians diagnose diseases, and evaluating work-related factors is necessary to determine their occupational origins. Therefore, diagnosing occupational diseases requires specialized knowledge and experience, which are often lacking in many developing countries. This limits data collection and national capacity in occupational health surveillance. Furthermore, in some countries, responsibility for health and safety at work is divided among labor, health, and social security ministries, complicating data collection and analysis. Additionally, many occupational diseases, such as occupational cancers, have long latency periods and are difficult to detect until clinical symptoms appear. Workers increasingly move between different jobs and are exposed to various factors throughout their working lives. Factors outside the workplace may also be associated with the onset of a disease, which makes it difficult to determine the occupational origin of a disease. Additionally, some workers may contract a disease while working with substances that have not yet been classified as hazardous.

In order to increase Turkiye's visibility in this global scientific cooperation network, it is recommended that participation in international joint projects be encouraged, protocols with foreign academic institutions be developed, and language and publication policies be brought into line with international standards.

STATEMENT OF RESEARCHERS' CONTRIBUTION RATE

Authors' contribution rates to the study are equal.

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CONFLICT OF INTEREST DECLARATION

There is no conflict of interest with any institution or person within the scope of the study.

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