# Bibliometric Analysis of Medical Professionals' Professionalism on Healthcare Service Quality: A Study Using *VOSviewer*

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**Abstract:** Bibliometric analysis is a method used to describe various scientific publications (Tupan et al., 2016). This study employs bibliometric analysis on several Scopus-indexed articles discussing the topic of medical professionalism and its impact on healthcare service quality, using VOSviewer software. The aim of the bibliometric analysis in this research is to understand the development of the topic, publication trends, statistics across different countries, and subject areas related to medical professionalism and healthcare service quality from 2016 to 2023. Data were retrieved from the Scopus database using the keywords "medical professionalism and quality of health service". The researchers then used VOSviewer software to analyze and visualize the retrieved database. The results comprised 194 documents, which were narrowed down to 182 documents for the period of 2016-2023.

**Keywords:** Bibliometric analysis; Healthcare service; Medical professionals'; Vosviewer

## Introduction

Professionalism of medical personnel is one of the crucial elements in determining the quality of health services (Bernales-Turpo et al., 2022; Endeshaw, 2021). Professional medical personnel are able to provide services that are not only in accordance with medical standards, but also pay attention to aspects of ethics, empathy, and communication with patients (Seriulna et al., 2024). In the global health system, the demand for this professionalism continues to increase along with the development of medical technology, patient needs, and competition in health facilities (Forsetlund et al., 2021; Moody-Williams, 2020).

Professionalism originates from the Latin word "Professio," meaning public declaration, which can be interpreted as having a competent attitude, possessing specialized knowledge through intensive preparation, deep skills according to scientific principles, and organizational strength (Mallikarjuna et al., 2016). The professionalism of medical personnel is crucial for maintaining high-quality healthcare services. The World Health Organization (WHO) in 2018 defined the basic concept of quality as providing effective, efficient, accessible, acceptable, patient-centered, equitable, and safe healthcare services (Eren, 2023).

Studies on the professionalism of medical personnel are often associated with increased patient satisfaction, treatment effectiveness, and reduced risk of malpractice. However, to understand the research trends on the professionalism of medical personnel and their contribution to the quality of health services, a comprehensive analytical approach is needed (Hwei & Octavius, 2021; Im et al., 2024). One approach used is bibliometric analysis, which allows researchers to map the development of scientific literature, identify key topics, and understand collaboration patterns in research in a particular field (Donthu et al., 2021; Pessin et al., 2022).

This study uses VOSviewer software, which is designed to visualize and analyze bibliometric data in depth (Kirby, 2023; Oyewola & Dada, 2022). VOSviewer

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is able to identify patterns of relationships between articles, authors, and keywords, thus providing insight into relevant research trends (Ding & Yang, 2022; Kuzior & Sira, 2022). With this approach, this study aims to explore how research related to the professionalism of medical personnel has evolved over time and how these themes affect the quality of health services (Al Husaeni, 2023).

Specifically, this study focuses on identifying publication trends related to medical personnel professionalism, mapping key themes related to the quality of health services. Analyzing collaboration patterns between authors, institutions, and countries in the study. The results of this study are expected to contribute to the development of academic studies, as well as provide a basis for policy makers and health institutions to improve the quality of health services by strengthening the professionalism of medical personnel.

Thus, this study not only contributes to scientific literature, but also provides practical insights into human resource management in the health sector. This study employs bibliometric analysis using the VOSviewer software. Bibliometric analysis is used to examine the distribution of various publications, including articles, reviews, and other types of literature. The topics analyzed can be qualitative or quantitative (Iftikhar et al., 2019). After obtaining data from Scopus, it is then analyzed using VOSviewer software, which aims to analyze and provide an overview of the development of scientific fields and research performance (Moral-Muñoz et al., 2020).

## Method

This research employs quantitative research with bibliometric analysis. Articles were retrieved from Scopus (www.scopus.com) on February 15, 2023. SCOPUS is a journal literature with various research data from around the world. The initial data collection involved accessing the Scopus website and searching for documents, which were then analyzed using bibliometrics, comprising several stages: the search stage, the screening stage, and analysis (Kumpulainen & Seppänen, 2022).

Search Stage Data documents were searched on Scopus (www.scopus.com) using the keyword "Medical Professionalism AND Quality of Health Service" (Figure 1).
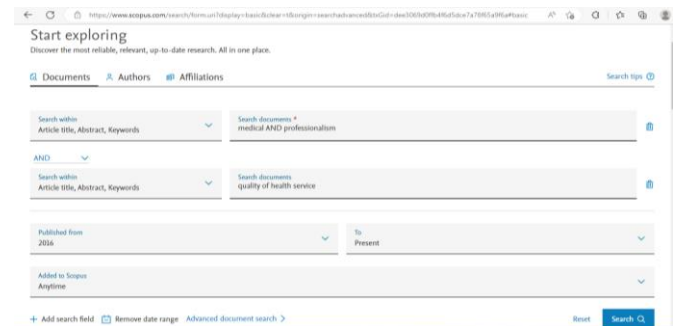


**Figure 1.** Document Search via www.scopus.com

(TITLE-ABS-KEY (medical AND professionalism) AND TITLE-ABS-KEY (quality AND of AND health AND service)) AND PUBYEAR > 2015 AND (LIMIT-TO (LANGUAGE, "English"))

The search was conducted for the period from 2016 to 2023, resulting in 194 articles (Figure 2).
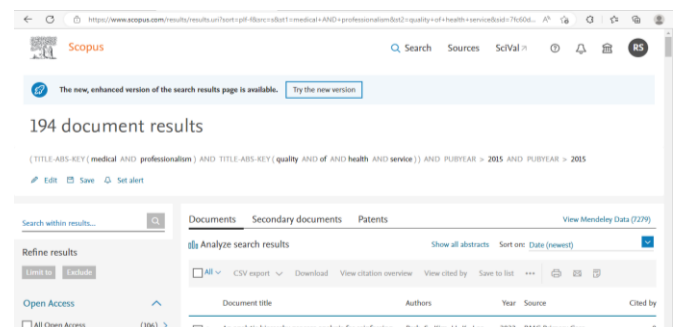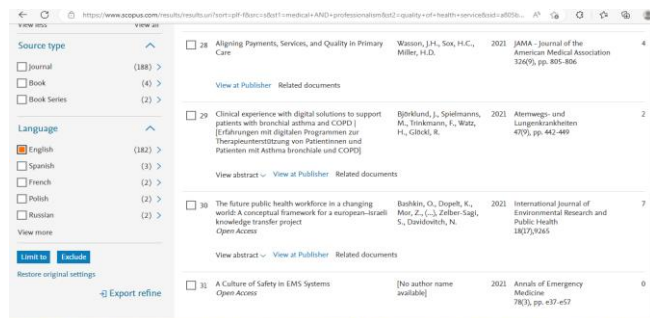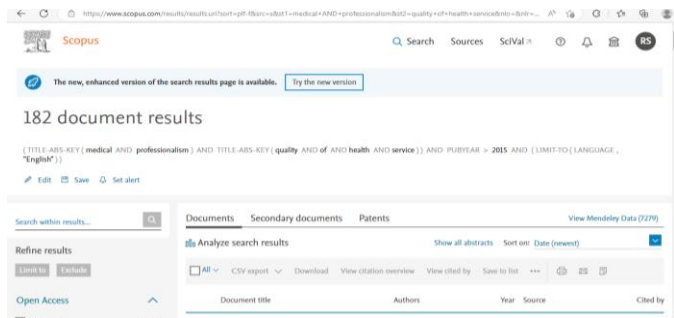


**Figure 2.** Search Results

Screening stage after the search stage, the researcher screened the obtained documents and filtered them down to 182 documents, selecting only those written in English (Figure 3).



| (a) | (b) |
|-----|-----|

**Figure 3.** Searching machine: (a) Document filtering using English; and (b) Retrieved Documents

**Figure 4.** Research stages diagram

1 document in the current year, 2023.



**Figure 5.** Graphic Documents by Year
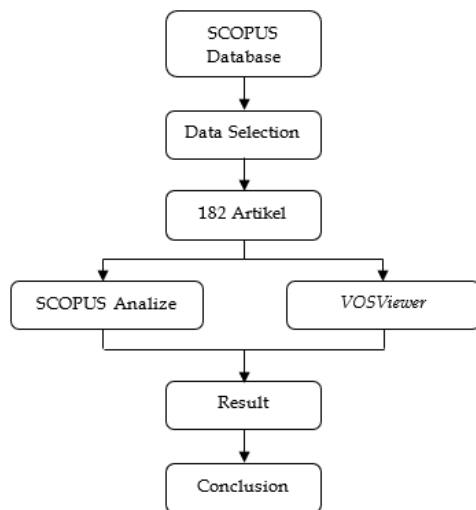
Analysis stage a total of 182 documents were obtained from various publications. Subsequently, all documents were downloaded in CSV and RIS formats for further bibliometric analysis (Kumpulainen & Seppänen, 2022; Unger et al., 2020). Overall, the research stages can be seen in the Figure 4.

## Result and Discussion

Bibliometric analysis of the 182 obtained documents on the topic of Medical Professionals' Professionalism towards Healthcare Service Quality is examined based on:

*Documents per Year*

Based on the Scopus data analysis of a total of 182 documents, the highest number of documents occurred in the years 2020 and 2021, with 30 documents each. In 2016, there were 24 documents, increasing to 26 documents in 2017. The number decreased in 2018 to a total of 23 documents, followed by 25 documents in 2019. In 2022, there were 19 documents, and there is only
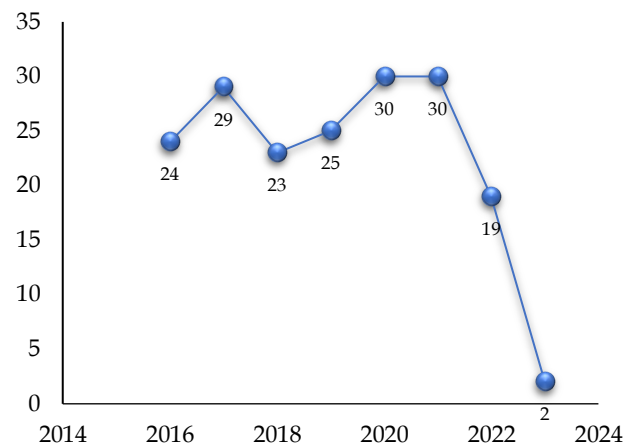
*Documents per Year According to Source*

Based on the data obtained per year according to the source, the most prominent source is BMC Health Services Research with a total of 8 documents. This is followed by 4 documents each from BMC Medical Education, BMJ Open, British Journal Of General Practice, JAMA Journal Of The America Medical Association, Journal Of Surgical Education, and 3 documents each from International Journal Of Environmental Research And Public Health, Journal Of General Internal Medicine, Southern Medical Journal. Additionally, there are 2 documents each from the American Journal Of Health System Pharmacy.

*Documents by Author*

Based on the analysis by researchers who published on medical professionals' professionalism towards healthcare service quality, the data shows that De Paepe, P, Morales, I, Rolland, M, and Unger, J.P. each have 3 publications (Ejaz et al., 2022; Unger et al., 2020). Meanwhile, Najm A has the fewest publications, with a total of 2.
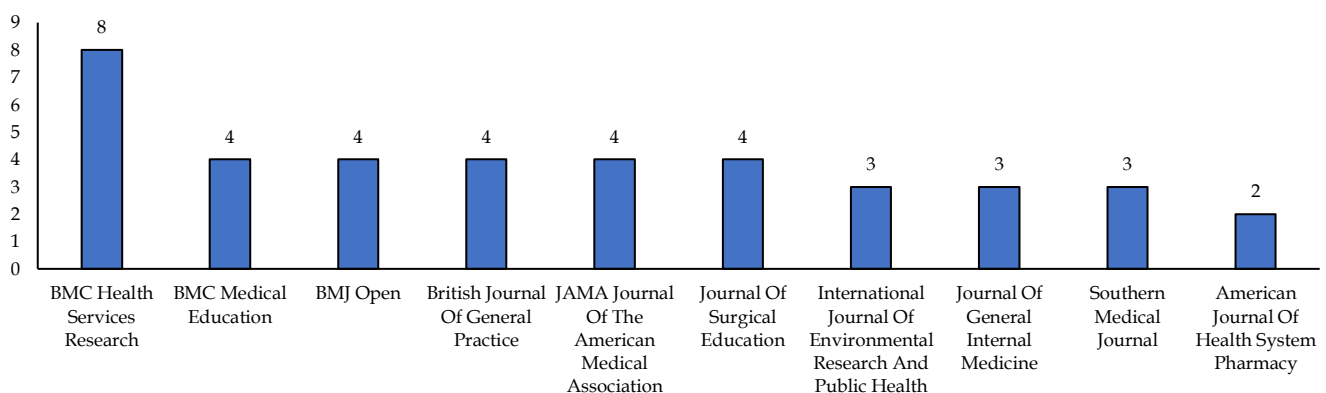


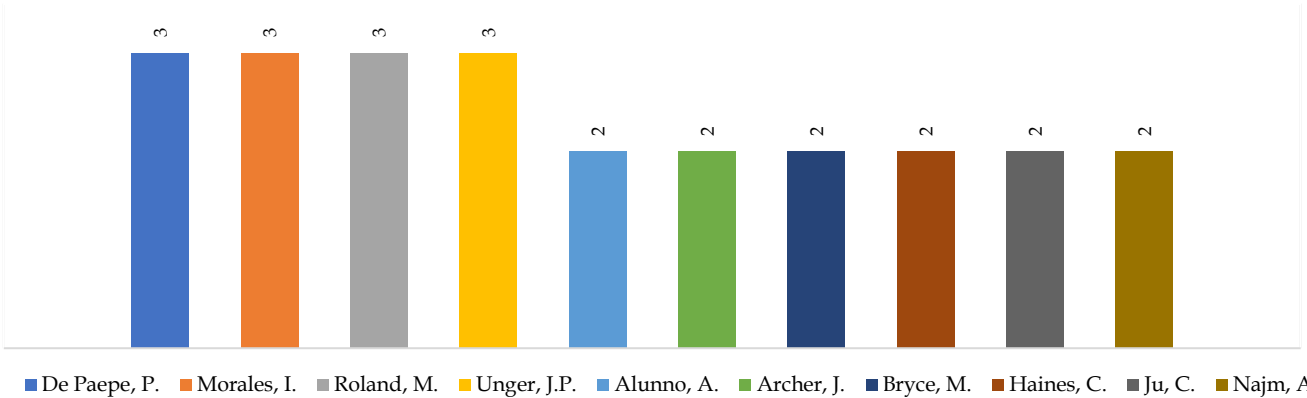**Figure 6.** Document graph per year by source

**Figure 7.** Document graphics by author

*Documents by Affiliation*

Based on the analysis of author affiliations regarding medical professionals' professionalism towards healthcare service quality, the top 5 affiliations chosen by researchers as publication sources are as follows: Universites Libre de Bruxelles with 4 publications, while the least number of publications originates from Universiteit Maastricht, totaling 3 publications (Ulupui et al., 2023).
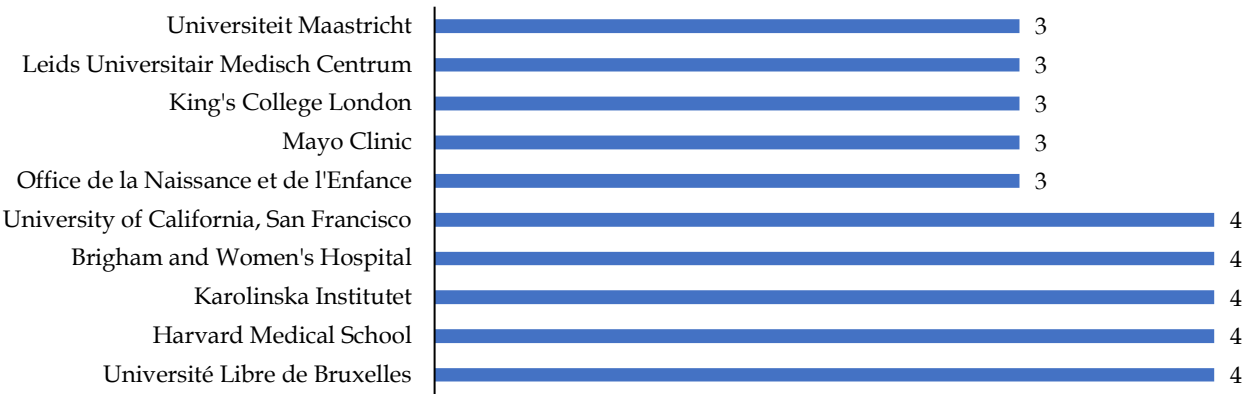


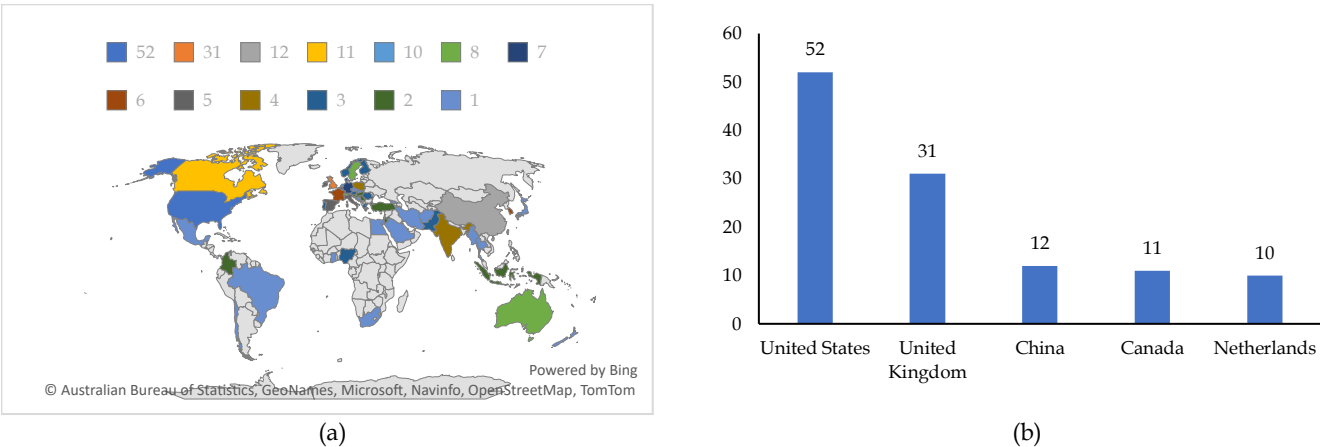**Figure 8.** Documents by affiliation



(a)

(b)

**Figure 9.** Documents by Country/Region (a) Map; and (b) Representation of each country

*Documents by Country/Region*

Documents by region are predominantly from the United States with 52 documents, followed by 31 documents from the United Kingdom, 12 documents from China, 11 documents from Canada, and 10 documents from the Netherlands.

*Documents by Document Type*

The search results based on document types are as follows: 57% of the documents obtained are articles, 15% are reviews, 10% are editorials, 9% are notes, 4% are letters, 2% are conference papers and short surveys, 1% are book chapters, and the last one is a book.
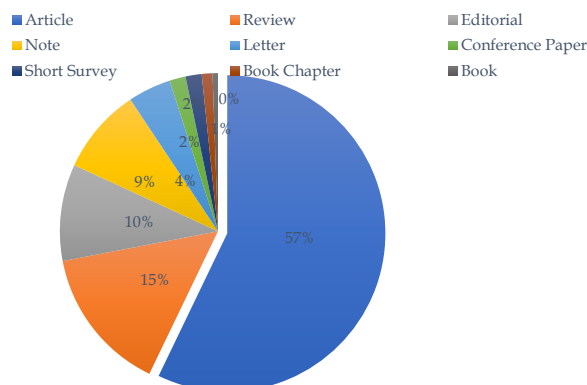


**Figure 10.** Documents by document type

*Network Visualization*

Based on the above image, the visualization result of the research network on the topic of healthcare professionals' professionalism towards healthcare service quality is divided into several clusters as shown in the image above. The red cluster represents the topic of professionalism, which is related to service quality in the yellow cluster. This aligns with the research conducted by Adeli et al. (2020), Popa et al. (2017) stating that the correlation of professionalism will impact healthcare service quality.
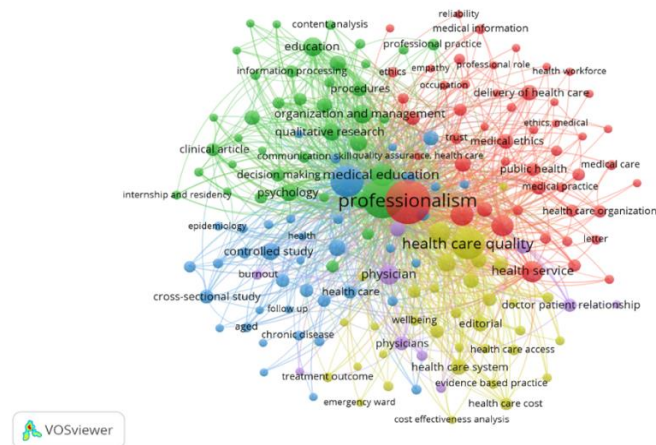


**Figure 11.** Network visualization

*Overlay Visualization*

The density visualization in the figure indicates that the keyword (Al Husaeni et al., 2023; Huang et al., 2022; Yang et al., 2022) "professionalism" is the most frequently used keyword in research from 2019 to 2023.

Following that, the next most commonly used keyword is "healthcare quality," which is often used in the period from 2018 to 2019.

*Density Visualization*

Based on the image, keywords highlighted in yellow indicate those commonly used in discussions on medical professionals' professionalism towards healthcare service quality. Meanwhile, areas shaded in greener hues suggest topics less frequently explored (Rasuman et al., 2024) in research on medical professionals' professionalism towards healthcare service quality. This mapping suggests that professionalism indeed influences healthcare service quality.

*Overlay Visualization*

The density visualization in the figure indicates that the keyword "professionalism" is the most frequently used keyword in research from 2019 to 2023. Following that, the next most commonly used keyword is "healthcare quality," which is often used in the period from 2018 to 2019.
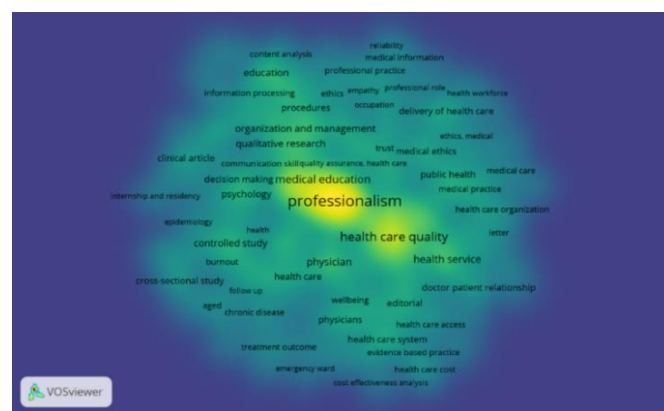


**Figure 12.** Mapping overlay density

*Density Visualization*

Based on the image, keywords highlighted in yellow indicate those commonly used in discussions (Abdullah, 2022; Bukar et al., 2023; Cheng et al., 2021; McAllister et al., 2022) on medical professionals' professionalism towards healthcare service quality. Meanwhile, areas shaded in greener hues suggest topics less frequently explored in research on medical professionals' professionalism towards healthcare service quality. This mapping suggests that professionalism indeed influences healthcare service quality.

## Conclusion

Medical Professionals' Professionalism towards Healthcare Service Quality It is crucial to maintain the

professionalism of healthcare professionals in delivering optimal care to patients. Professionalism entails competence and upholding ethical standards within one's discipline and profession. With medical professionals demonstrating professionalism, the quality of healthcare service will consequently improve.

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