



## Bibliometric and visual analysis of work performance nursing staff hospital

Sri Hastuti<sup>1\*)</sup>, Qurratul Aini<sup>2)</sup>

<sup>1</sup> Universitas Muhammadiyah Yogyakarta

<sup>2</sup> Universitas Muhammadiyah Yogyakarta

### ARTICLE INFO

#### Article history:

Received 21 January 2023

Accepted 1 April 2023

Published 10 June 2023

#### Keyword:

work performance  
bibliometric analysis  
hospital nursing staff

#### \*) corresponding author

Sri Hastuti

Magister Administrasi Rumah Sakit,  
Universitas Muhammadiyah Yogyakarta  
Magister Administrasi Rumah Sakit,  
Universitas Muhammadiyah Yogyakarta

Email: hastutin210@gmail.com

DOI: 10.30604/jika.v8i2.1991

Copyright 2023 @author(s)

### ABSTRACT

**Background and Purpose:** Nurse's work performance is the result of work effort achieved by a nurse in the process of carrying out tasks in accordance with the responsibilities given and determined by ability, experience and sincerity as well as time owned. The purpose of this article is to find out how far the nurses work performance in hospitals has been researched and published around the world over the last ten years. Researchers also want to know the description of the scope of research related to the nurses' work performance in hospitals. Materials and research methods is quantitative research by analysing bibliographic data using the VOSviewer program. Bibliographical data about the nurses' work performance was searched through Scopus ([www.scopus.com](http://www.scopus.com)) and processed with the VOSviewer program. Results of 270 publications with articles related to the nurses work performance in hospitals over the previous 10 years were found in the search results. The most in the United States. Zhang, Y is a researcher who has great productivity. In the analysis of terms in the research abstract, there are 4 clusters. The term used in this article is 'human' with 212 associations, 'nurse' with 99 associations. Based on the analysis of the keywords used, the theme of cluster 1 is "human", the theme of cluster 2 is "nurse", the theme of cluster 3 is "motivation" and cluster 4 is job satisfaction". **Conclusion:** This bibliometric analysis presents the current state of performance of nurses in hospitals from various angles and serves as a resource and guide for scholars conducting additional research. job performance, patient safety, leadership, patient care are the themes that appear in this bibliometric analysis.

This open access article is under the [CC-BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.



### INTRODUCTION

The hospital is an organization that provides health services to meet the needs of the community. Development of innovation in collaborating various competencies of doctors, nurses and managers as managers of nursing care in general (Aini, 2018). Nurses are quite a number of leading health services compared to other health workers. In forming the public's view of the hospital, nurses are the main part in providing services directly to patients. Nurse performance will lead to a better sense of customer satisfaction so that public trust in the hospital will increase. Work performance is a form of quality and valuable work and is responsible according to professional standards. Work performance is the implementation of assigned tasks based

on ability, experience, sincerity, and seriousness as well as the time they have to complete their authority and obligations. (Fauzi, 2022)

Improving the quality of health services requires maintaining the quality of services by measuring and assessing the knowledge, skills and professional behavior of health workers according to professional standards. Professional nurses who work in services at health centers, hospitals and other health facilities, such as professional nurses who work in providing care. The behavior of nurses in a culture of patient safety and providing patient care is caring, friendly, polite and empathetic and responsible. The hospital develops nurse professionalism as an effort to improve patient quality and safety. Improving training programs that are attended by all members of nurses who

are directly and indirectly involved in providing nursing care in health services, especially in hospitals.(Tungga Dewi et al., 2018)

The work performance of nurses in hospitals has been researched in recent years. The researcher wanted to find out how far the research on nurse performance in hospitals has progressed and what factors have influenced it in the world over the last 10 years by conducting a bibliometric analysis. Bibliometric analysis is a quantitative method for analyzing bibliographic data in articles/journals. This analysis is usually used to investigate references to scientific articles cited in a journal, scientific mapping of a journal and to classify scientific articles according to the research field. Scopus is used to search for bibliographies as a database source to be used.

The computer program used is VOSviewer. VOSviewer is a program that has been developed for building and viewing bibliometric maps. This program is freely available to the bibliometric research community ([www.vosviewer.com](http://www.vosviewer.com)). VOSviewer can be used to create author or journal maps based on correlation data as well as data-driven keyword maps. This program offers a detailed display of bibliometric maps. VOSviewer can display maps in separate ways, each emphasizing a different aspect of the map. It has functions to zoom, scroll and search for specific information on the map. The viewing capabilities of VOSviewer are excellent for maps with many items (at least 100 items).

VOS displays use VOS mapping techniques to generate maps. VOS stands for Visualization of similarities. VOSviewer can display maps created using proper mapping techniques. Therefore, this program can be used not only to display maps constructed using the VOS mapping technique but also to display maps constructed using techniques such as multidimensional scaling. VOSviewer can be used to build and display Shared citation maps from more than 5000 scholarly journals.

There are two types of bibliometric maps. Distance-based and graph-based maps. A distance-based map is a map where the distance between two items reflects the strength of the relationship between the items. Smaller distance shows a stronger relation (Hadi-Moghaddam et al., 2021). In many cases, items are distributed unevenly on distance-based maps. On the one hand this makes it easy to identify groups of related items, but on the other hand it sometimes makes it difficult to label all the items in a map without having the labels overlap. A chart-based map is a map where the distance between two items need not reflect the strength of the relationship between items. Instead, lines are drawn

between items to show the relation. Items are often distributed in a uniform manner in graphically based maps. This has the advantage that there will be fewer overlapping labels. The disadvantage of graph-based maps compared to distance-based maps is that it is difficult to see the strength of the relationship between two items. Clusters of related items may also be more difficult to detect (van Eck & Waltman, 2010).

## METHODS

**Research Specifications:** This research is quantitative research by analysing bibliographic data using the VOSviewer program. **Research Material:** Bibliographic data regarding the WORK PERFORMANCE NURSING STAFF IN HOSPITAL research from 2013 to 2022 taken through Scopus ([www.scopus.com](http://www.scopus.com)). **Data Collection Techniques:** Researchers use data from international publications sourced from Scopus data Data collection through searching with keywords "(TITLE-ABS-KEY (REF (nursing AND staff) AND REF (work AND performance) AND REF (hospital))). **Data Processing Techniques:** Data is exported from Scopus and the VOSviewer program. Figure 1 illustrates the research decision strategy.

**Data Analysis:** The data obtained through searching on Scopus was then analysed using four steps, namely the search stage, filtering stage, checking bibliometric attributes, and bibliometric analysis which is shown in figure 1.

## RESULTS AND DISCUSSION

### Analysis of Number of Publication Documents per Year

A total of 278 articles were found and based on the curve in figure 2 shows that research on the work performance of nurses in hospitals has begun to increase in the last five years, namely in 2019 there were 37 publications, in 2020 there were 33 publications, in 2021 there were 61 publications and the most publications in 2022 with 73 publications. He explained that research on the work performance of nurses in hospitals is still a popular and sustainable topic.

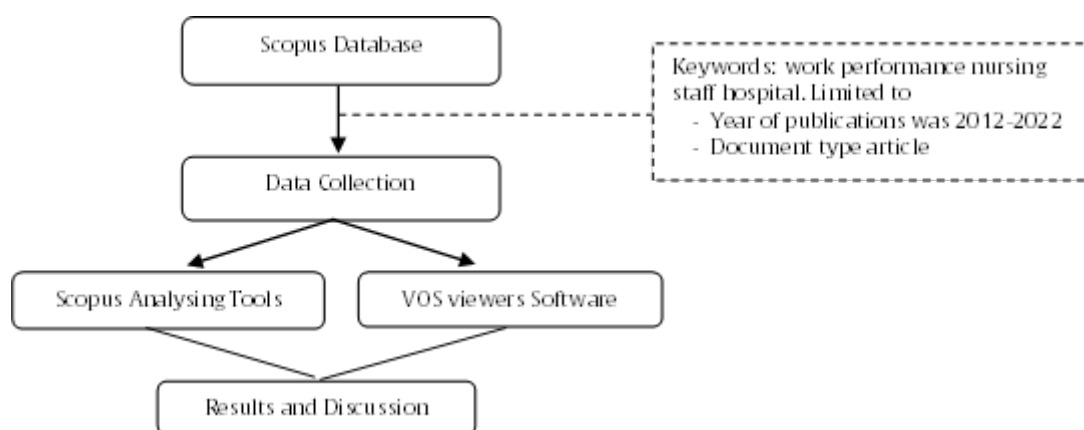
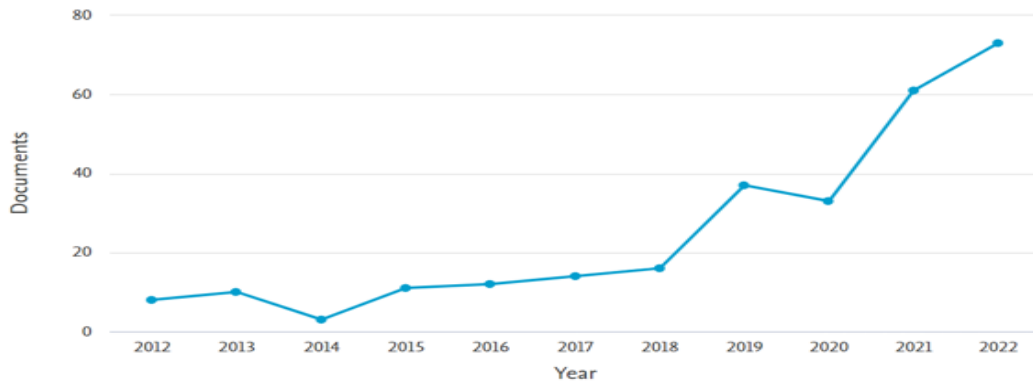
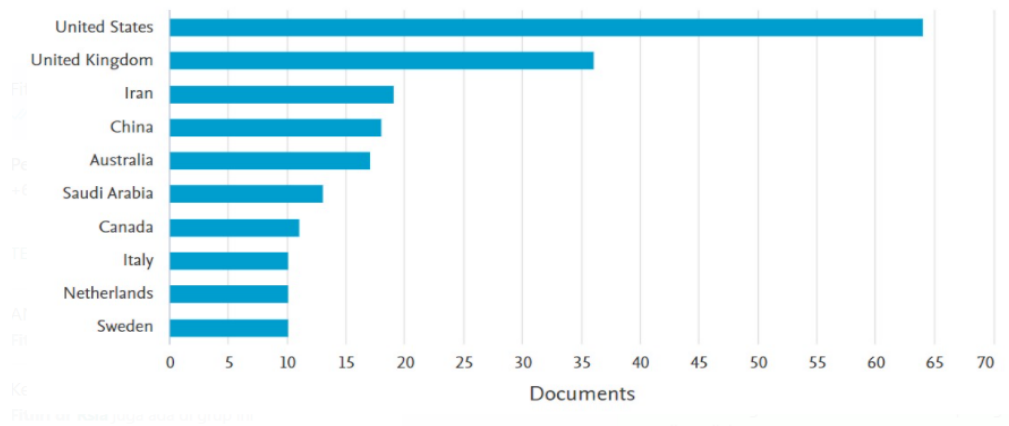


Figure 1. Stages of research

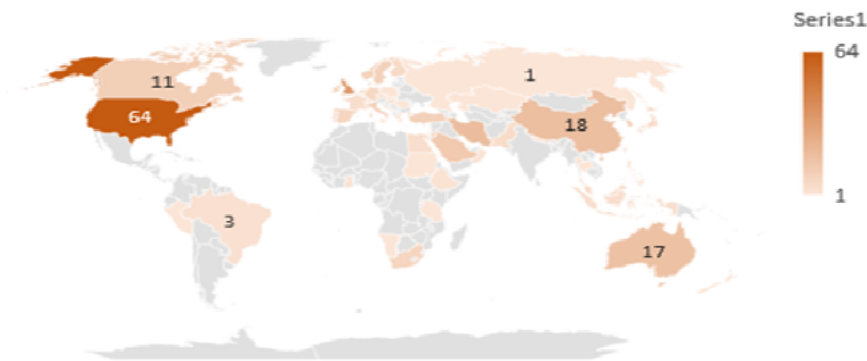


Source: Scopus database  
 Figure 2. Number of Publication documents per year

### Analysis of Number of Publication Documents per Country in the World



Source: Scopus database  
 Figure 3. Number of Articles in Every Country in the World



Source: Scopus database  
 Figure 4. Distribution of Nurse Performance Research in Hospitals

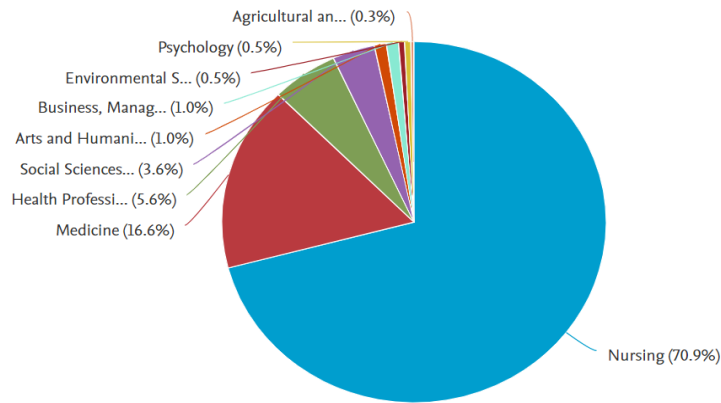
The distribution of research and publications on the work performance of nurses in hospitals in the world is not evenly distributed. This is illustrated in the map of figure 3.

Researchers from 65 countries contributed to 278 articles on the work performance of nurses in hospitals. The most research documents on nurse performance in hospitals over the last 10 years were in the United States with 64 publications. The top five countries that produced research documents on nurse performance in hospitals after the

United States were England with 36 documents, Iran with 19 documents, China with 18 documents and Australia with 17 documents (Figure 4).

Most of the research documents regarding research on nurse performance in hospitals are related to nursing science, namely 70.92% of the total documents. The second order is documents related to medical science by 16.58%, then health professionals 5.6%, social science 3.6% and the smallest agricultural 0.3% (Figure 5).

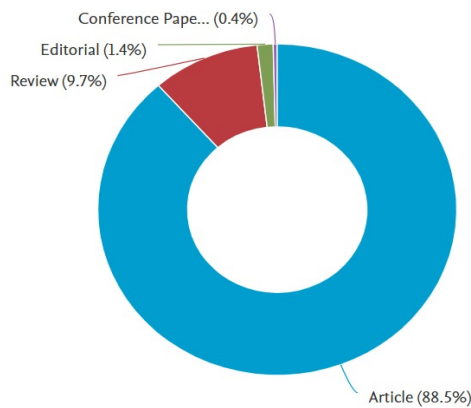
**Analysis of Nurse Performance Research Documents by Research Area**



Source: Scopus database

**Figure 5. Comparison of the Number of Nurse Performance Research Documents in Hospitals**

**Analysis of Research Documents by Type**



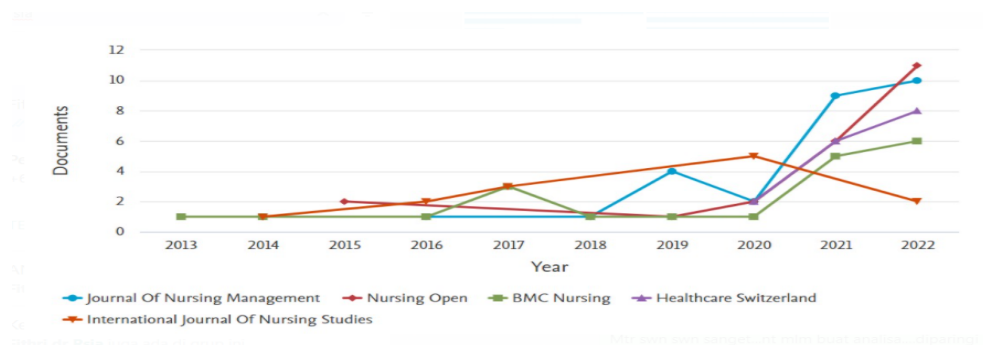
Source: Scopus database

**Figure 6. Comparison of the Number of Publications by Document Type**

The most common types of research publication documents on nurse performance in hospitals are in the form of articles, namely 88.5%. The second most published

document is in the form of a review, which is equal to 9.7%. While the editorial is 1.4% and Conference is 0.4%.

**Research Source Analysis**



Source: Scopus database

**Figure 6. Number of Publication Documents According to Research Sources Per Year**





the discipline at work. Work discipline, namely behavior, attitudes, behavior and actions shown by someone in accordance with organizational regulations both written and unwritten (Burhannudin et al., 2019). Work discipline is one of the efforts made by management to encourage members of the organization to comply with applicable regulations. Discipline in the organization is carried out by adhering to time rules, hospital regulations and obeying rules in working as a nurse (Arifah et al., 2020)(Dall' Ora et al., 2016). Nurses are related to registered nurses. A nurse who works in hospitals and other health care workers must have a complete registration to provide clinical services that can affect the performance of a nurse (Seo & Cho, 2022).

Cluster 2 is a blue cluster containing 20 keywords related to the theme including Fatigue, health care quality, hospitals, nursing, nursing care, nursing staff, hospital, occupational health, organization management, organization culture, patient care, patient safety, personal management, personal staffing, quality of health care, registered nurse, shift work, shift work schedule, work schedule tolerance and workforce. Nurses have an important and dominant role in health services in hospitals. Nurses are popular professionals and are the service end at the front. The resources of a nurse if properly managed by the organization can provide quality and good quality hospital services. Nurses carry out their work in accordance with the knowledge and competence they already have, so they have a role in the quality and safety of patients (Stimpfel & Aiken, 2013). Nurses are quite a lot of frontline health service providers compared to other health workers. In forming the public's view of the hospital, nurses are the main spearhead in providing services directly to patients. The work performance of nurses will lead to a better sense of customer satisfaction so that public trust in the hospital will increase. Nurses provide care to patients based on competency standards that they already have and have a nurse's license as legality in nursing practice at the hospital (López-Ibort et al., 2021). Work performance is a form of quality and valuable and responsible work. Job performance is a manifestation of the results of completing tasks, based on abilities, skills, willingness and time opportunities (Fauzi, 2022).

Cluster 3 is a green cluster which contains 16 keywords related to the theme including about Employee, health care personnel, personal health, job stress, mental health, mental stress, motivation, nursing home, nursing homes, occupational stress, psychological, work environment, workload, office. Job performance with motivation has a relationship. Motivation is an intrinsic factor that affects nurse performance. The performance of nurses is able to contribute to improving the quality of service (Ayalew et al., 2021). Motivation, namely the provision of driving force to increase one's morale from within to mobilize abilities and expertise optimally in carrying out tasks so that the goals set are achieved (Gunawan et al., 2017). Individual work motivation will affect a nurse in improving the ability and competence and expertise in the work environment (Aini, 2018). With high motivation a nurse is able to complete her work assignments well (Negussie & Oliksa, 2020). Lack of motivation for nurses to do their job optimally will reduce the achievement of a set goal. So that high motivation is needed so that the company's goals are achieved optimally in quality and quantity. Motivation greatly influences the achievement of nurse performance in providing patient care at the hospital (Novitasari, 2019).

Cluster 4 is a yellow cluster consisting of 13 keywords related to the theme including attitude of health person, behavior, burnout, burnout professional, cross-sectional

studies, health personal attitude, intention, job statistics, middle aged, personnel turnover, surveys and questionnaires, turnover intention, turnover rate, wellbeing. Nurse job satisfaction is related to job performance. Job satisfaction in nurses related to the empowerment of human resources. Job satisfaction will be able to influence nurse performance. Organization and leadership develop and increase nurse job satisfaction through education and training, nurse career paths, individual key performance, supervision. With an increase in performance satisfaction will affect the performance of nurses in providing care to patients (Novitasari, 2019) Job satisfaction is a person's perspective both positively and negatively and individually about his work. Job satisfaction of an employee is a factor that encourages enthusiasm and enthusiasm for work so that it influences his behavior (Gunawan et al., 2017). Job satisfaction is a person's perspective, both positive and negative, about his work, which is a multifaceted concept (many dimensions) that can use attitudes as a whole or refers to parts of one's work. Performance is the result of work that has a strong relationship with the organization's strategic objectives, customer satisfaction and contributes to the economy (Hartati et al., 2013). The driving factors for nurses to excel are not only caused by job satisfaction, but are influenced by other factors such as individual characteristics, for example educational background, long working years or motivational factors in nurses. in the opinion There is a positive and significant relationship between job satisfaction with nurse performance (Hartati et al., 2013).

Bibliometric analysis is a quantitative research method that can be used by researchers to get a broad picture of previous studies. This article describes the research and publication of the work performance of nurses in hospitals over the past ten years. And increasing in recent years. The United States is the largest contributor of publications and there are 64 publications. Retrieval of bibliographic data via www.scopus and processed using the VOSviewer program. VOSviewer integrates primary colors in the resulting visualizations. Density visualization is used to see the density level or the quantity of the topic under study. The more yellow a knot is, the more research is done. Conversely, the greener a node, the less research is done. This research shows that in the fields of patient safety, behavior, job stress, teamwork, education, nursing management, workload has the potential to become a future research topic related to the work performance of nurses in hospitals.

Using the VOS viewer makes it easy to collect and analyze large amounts of scientific data. Based on the findings and discussion, it can be concluded that 278 research documents have been published regarding "the work performance of nurses in hospitals" in the last ten years. In 2022 there will be 73 studies. The United States is the country that has published the most research, with 64 studies. Zhang.y has 5 publications and is the most prolific researcher. There are four clusters in the analysis of terms in the research abstract. With 212 associations, the terms "Human" and "Nurse" are the most used in the article.

According to keyword analysis, the first theme is "human", the second theme is "nurse", the third theme is "motivation" and the fourth theme is "job satisfaction". According to the results of the bibliometric analysis in this article, it can be seen that the scope of the research is related to the work performance of nurses in hospitals (Wei, H., Sewell, K.A., Woody, G., Rose, n.d.). In addition, the VOSviewers analysis shows that there are four clusters containing networks based on keywords with quality and

service that have the highest frequency and total link strength.

## LIMITATION OF THE STUDY

There are still certain limitations to this research. The only trends in “work performance of nursing staff in hospitals” that have recently emerged were looked at. More research must be done on this, either by doing a literature review or by developing original thoughts.

## CONCLUSION AND SUGGESTION

Based on the results and discussion, it can be concluded that there were 278 research documents published about the performance of nurses in hospitals in the last 10 years. The highest Scopus index in 2022 which reached 73 studies. The country that has published the most research on nurse performance in hospitals is the United States with 64 studies. Zhang.Y is a researcher who has the greatest productivity with 5 publications. In the analysis of terms in the research abstract, there are 4 clusters. The term most used in the article is ‘human’ with 212 incidents, ‘nurse’ with 99 incidents, “motivation” with 53 incidents, “job satisfaction” with 99 incidents. The author suggests the need to develop research related to the work performance of nurses in hospitals, especially on items that have not been widely studied.

## ACKNOWLEDGMENT

The researcher would like to express their gratitude to everyone for their support, advice, and help in conducting this study. Additionally, this study was made possible by the University of Muhammadiyah Yogyakarta Hospital Administration Study Program.

## ETHICAL CONSIDERATIONS

### Funding Statement

The authors did not receive any money for the work they submitted from any organization.

### Conflict of Interest Statement

There is no potential conflict of interest in the development and publishing of this work, according to the authors.

## REFERENCES

Aini, Q. (2018). Motivation, commitment and leadership skill in affecting performance hospital managers. *Journal of Social Sciences Research*, 4(12), 707–710. <https://doi.org/10.32861/jssr.412-707-710>

- Aini, Q. (2020). Model of patient safety behavior influenced by culture and attitudes of safety patients: Case study of PKU Muhammadiyah Hospital in Bantul. *Enfermeria Clinica*, 30, 272–275. <https://doi.org/10.1016/j.enfcli.2020.06.062>
- Arifah, M., Safrizal, H. B. A., & Fathor, A. . (2020). Disiplin kerja dalam meningkatkan kinerja perawat melalui motivasi sebagai variabel intervening. *Management and Business Review*, 4(2), 88–98. <https://doi.org/10.21067/mbr.v4i2.5177>
- Ayalew, E., Workineh, Y., Abate, A., Zeleke, B., Semachew, A., & Woldegiorgies, T. (2021). Intrinsic motivation factors associated with job satisfaction of nurses in three selected public hospitals in Amhara regional state, 2018. *International Journal of Africa Nursing Sciences*, 15. <https://doi.org/10.1016/j.ijans.2021.100340>
- Bae, Y. H., & Yeom, H.-A. (2022). Structural Equation Modeling of Person-Centered Nursing in Hospital Nurses. *Healthcare (Switzerland)*, 10(3). <https://doi.org/10.3390/healthcare10030514>
- Burhannudin, Zainul, M., & Harlie, M. (2019). Pengaruh disiplin kerja, lingkungan kerja, dan komitmen organisasional terhadap kinerja karyawan. *Jurnal Maksipreneur*, 8(2), 191–206.
- Dall’ Ora, C., Ball, J., Recio-Saucedo, A., & Griffiths, P. (2016). Characteristics of shift work and their impact on employee performance and wellbeing: A literature review. *International Journal of Nursing Studies*, 57, 12–27. <https://doi.org/10.1016/j.ijnurstu.2016.01.007>
- Fauzi, H. (2022). Pengaruh Penempatan Kerja dan Beban Kerja terhadap Prestasi Kerja. *J-Aksi : Jurnal Akuntansi Dan Sistem Informasi*, 3(2), 304–313. <https://doi.org/10.31949/jaksi.v3i2.3002>
- Gunawan, A., Machasin, M., & Fitri, K. (2017). Pengaruh kompensasi dan pengembangan karir terhadapkepuasan kerja perawat yang dimediasi oleh motivasi kerja pada rumah sakit bina kasih Pekanbaru. *Jurnal Online Mahasiswa Fakultas Ekonomi Universitas Riau*, 4(1), 870–883.
- Hadi-Moghaddam, M., Karimollahi, M., & Aghamohammadi, M. (2021). Nurses’ trust in managers and its relationship with nurses’ performance behaviors: a descriptive- correlational study. *BMC Nursing*, 20(1). <https://doi.org/10.1186/s12912-021-00653-9>
- Hartati, S., Handayani, L., & Solikhah, . (2013). Hubungan Kepuasan Kerja Dengan Prestasi Kerja Perawat Di Instalasi Rawat Inap Rumah Sakit Islam Klaten. *Jurnal Kesehatan Masyarakat (Journal of Public Health)*, 5(1), 5–13. <https://doi.org/10.12928/kesmas.v5i1.1020>
- López-Ibort, N., Cañete-Lairla, M. A., Gil-Lacruz, A. I., Gil-Lacruz, M., & Antoñanzas-Lombarte, T. (2021). The quality of the supervisor–nurse relationship and its influence on nurses’ job satisfaction. *Healthcare (Switzerland)*, 9(10). <https://doi.org/10.3390/healthcare9101388>
- Negussie, B. B., & Oliksa, G. B. (2020). Factors influence nurses’ job motivation at governmental health institutions of Jimma Town, South-west Ethiopia. *International Journal of Africa Nursing Sciences*, 13. <https://doi.org/10.1016/j.ijans.2020.100253>
- Novitasari, N. (2019). Pengaruh Motivasi dan Kepuasan Kerja Terhadap Kinerja Perawat Rumah Sakit Putera Bahagia Cirebon. *Jurnal Ilmiah Universitas Batanghari Jambi*, 19(1), 179. <https://doi.org/10.33087/jiubj.v19i1.588>
- Priyantini, D., & Ayatulloh, D. (2023). Relationship of work motivation with nurse performance in Installation Room of

- Islamic Hospital. *The Journal of Palembang Nursing Studies*, 2(1), 60–66. <https://doi.org/10.55048/jpns.v2i1.78>
- Seo, H., & Cho, O.-H. (2022). Factors affecting job satisfaction of advanced practice registered nurses in Korea. *Nursing Practice Today*, 9(4), 326–336. <https://doi.org/10.18502/npt.v9i4.11204>
- Stimpfel, A. W., & Aiken, L. H. (2013). Hospital staff nurses' shift length associated with safety and quality of care. *Journal of Nursing Care Quality*, 28(2), 122–129. <https://doi.org/10.1097/NCQ.0b013e3182725f09>
- Tungga Dewi, S., Pitara Mahanggoro, T., & Urmila, M. (2018). Effect of work motivation with working discipline in nursing performance in special unit PKU Muhammadiyah Bantul Yogyakarta. *Jurnal Medicoeticolegal Dan Manajemen Rumah Sakit*, 7(3), 247–254. <https://doi.org/10.18196/jmmr.7379>
- van Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics*, 84(2), 523–538. <https://doi.org/10.1007/s11192-009-0146-3>
- Wei, H., Sewell, K.A., Woody, G., Rose, M. A. (n.d.). The state of the science of nurse work environments in the United States: A systematic review. *International Journal of Nursing Sciences*, 5(3), 287–300.

