

Professional Relationships Can Improve the Quality of Nursing Services at Wijaya Kusumah Kuningan Hospital, West Java, Indonesia

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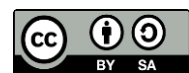
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Abstract

Data from the Indonesian Ministry of Health (2020) shows that only 20% of health facilities measure service quality, with indicators such as patient identification compliance (66.67%) and emergency room response time (10.5%) still low. Professional relationship issues such as communication and collaboration between professionals also affect service quality, so that improvement efforts are needed to achieve quality services and are oriented towards patient satisfaction. The purpose of this study was to determine the relationship between professional relationships and the quality of nursing services. Methods: This study used a quantitative research method using a cross-sectional model. The population in this study were 58 nurses at Wijaya Kusumah Hospital, Kuningan, with a total sampling technique. The instruments used in this study were observation sheets and questionnaires. Data analysis was carried out according to univariate and bivariate using the Spearman Rank statistical test. Results: This study shows that most of the Professional Relationships were 47 people (81.0%), and of the 58 respondents, the quality of nursing services was mostly good (55 respondents (94.8%). The results of the Spearman Rank test obtained a p value of 0.000 (<0.05) with an R value of 0.509. There is a significant relationship between Professional Relationship and the quality of nursing services in nursing services which include activities such as passes, nursing conferences, and nursing rounds.

Keywords: Nursing Conference, Nursing Rounds, Professional Relationship



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INTRODUCTION

Nursing services are a key component and the frontline of healthcare services in hospitals (A Pranatha, MD Nugraha, 2023). The quality of nursing services is often the primary benchmark by which patients assess the overall quality of a hospital. One important indicator of nursing service quality is patient satisfaction (López Cárdenas et al., 2022). Professional relationship "Nurse-to-nurse relationships are collaborative relationships built on mutual respect, trust, and shared responsibility for providing quality care. These relationships encompass effective communication, peer support, and teamwork to achieve optimal nursing goals" (Patrica et al. 2021).

Nursing services in hospitals are a key aspect in providing comprehensive healthcare services, encompassing promotive, preventive, curative, and rehabilitative services. However, various problems persist, such as limited nurse numbers, supporting facilities, nurse competency, and suboptimal nursing service management. Data from the Indonesian Ministry of Health (2020) shows that only 20% of healthcare facilities in Indonesia measure service quality, with indicators such as patient identification compliance and waiting times remaining low. For example, research at Jember Lung Hospital (Tyas, 2021) found very low service quality indicators. The purpose of this study is to analyze the factors influencing the quality of nursing services in hospitals.

Another frequently encountered problem is the low professionalism of nurses, such as unfriendly attitudes, slow responses, and a lack of empathy, which leads to patient complaints (Dwi Sandiyah & Mustriwi, 2021). A study at Labuang Baji Regional Hospital in Makassar (Anggriani et al., 2021) also showed that the quality of health services is still less than optimal, especially in the attitudes of staff and the information provided to patients. Furthermore, professional relationships between healthcare professionals, such as collaboration between nurses, doctors, and patients, are often suboptimal, including during operational activities, nursing conferences, and nursing rounds (Ghosh, S., Ramamoorthy, L., & Pottakat, B. (2021). A study at the Cilandak Marine Hospital even showed that 56.7% of respondents assessed professional nursing practices as poor. The purpose of this study was to evaluate the impact of professional relationships on the quality of nursing services (Halm, 2023).

A preliminary study conducted at Wijaya Kusumah Hospital, Kuningan, revealed that several aspects of nursing services had not been optimally implemented. In particular, nursing rounds were not carried out consistently, and nurses were observed to be less responsive in delivering patient care. These findings suggest that the standards of professional nursing practice have not yet been fully realized in daily clinical activities. The absence of structured and routine nursing rounds may contribute to gaps in communication, coordination, and continuity of care. In addition, low responsiveness among nurses can affect patient satisfaction and overall service quality.

This condition reflects the need for strengthening professional accountability in nursing practice. It also indicates that existing systems and supervision mechanisms may not be functioning effectively. Such challenges highlight the importance of evaluating current practices to identify areas for improvement. Without proper intervention, these issues may persist and negatively impact patient outcomes. Therefore, efforts to enhance professionalism in nursing services are urgently required. Strengthening adherence to established standards is a critical step toward improving healthcare delivery. These initial findings serve as a foundation for further investigation in this study.

Supporting evidence from previous research reinforces these concerns about the quality of nursing care. A study by Sintari et al. (2022) found that 74% of patients assessed the quality of care as only adequate, indicating that there is still considerable room for improvement. The study also identified several underlying issues, including conflicts among nurses and ineffective management practices. Interpersonal conflicts can disrupt teamwork and reduce the efficiency of healthcare delivery. Meanwhile, weak management systems may lead to unclear roles, lack of supervision, and inconsistent implementation of care standards.

These problems collectively contribute to suboptimal service quality and patient dissatisfaction. Furthermore, inadequate coordination among healthcare providers can hinder the delivery of holistic and patient-centered care. The findings suggest that both individual and organizational factors play a role in shaping the quality of nursing services. Addressing these issues requires not only improving individual competencies but also strengthening institutional systems. Without a comprehensive approach, improvements may not be sustainable. Therefore, it is essential to consider both human resource development and management reform. This highlights the complexity of challenges faced in improving nursing care quality.

In response to these challenges, a more structured and systematic approach is needed to enhance the quality of nursing services. One key strategy involves improving the competency of nurses through continuous education and professional development programs. In addition, the implementation of clear and effective collaboration methods among healthcare teams is crucial. Structured teamwork can enhance communication, reduce conflicts, and ensure better coordination in patient care. Establishing standardized procedures, such as regular nursing rounds, can also improve consistency in service delivery.

The integration of professional values and teamwork principles is essential for achieving optimal healthcare outcomes. This study aims to provide practical recommendations for improving the nursing care system based on professionalism and team collaboration. The proposed approach is supported by previous studies, including those by Cloyd et al. (2025) and Djiadeu et al. (2019), which emphasize the importance of collaborative practice in healthcare settings. By adopting these strategies, healthcare institutions can enhance both service quality and patient satisfaction. Ultimately, strengthening the nursing care system will contribute to better health outcomes and more efficient healthcare services. This study is expected to offer valuable insights for policy and practice improvement.

RESEARCH METHOD

This study employs a quantitative approach to systematically examine the relationship between variables within a defined population. Quantitative methods are selected because they allow for objective measurement and statistical analysis, ensuring that findings can be interpreted with a high level of reliability. By using structured data collection tools and numerical analysis, this research aims to produce generalizable insights based on empirical evidence derived from the participants.

Research Design

The research adopts a cross-sectional design, in which data are collected at a single point in time to capture the current condition of the variables under investigation. This design is appropriate for identifying associations or correlations without requiring long-term follow-up. Through this approach, the study provides a snapshot of the existing situation, enabling efficient data collection and analysis within a limited timeframe.

Research Target/Subject

The population of this study consists of 58 nurses working in the inpatient ward of Wijaya Kusumah Hospital, Kuningan. Due to the relatively small and manageable population size, a total sampling technique was applied, meaning that all members of the population were included as research participants. This approach ensures comprehensive representation and minimizes sampling bias.

Research Procedure

The research procedure began with obtaining permission from the relevant institution, followed by the preparation and distribution of research instruments to all participants. Respondents were informed about the purpose of the study and provided their consent before participating. Data collection was conducted simultaneously across all subjects, ensuring consistency in the process and minimizing potential variations caused by time differences.

Instruments and Data Collection Techniques

Data were collected using a structured questionnaire designed to measure the variables of interest. The questionnaire was distributed directly to the respondents, allowing them to provide responses based on their experiences and perceptions. This method ensures standardized data collection and facilitates easier quantification of responses for subsequent analysis.

Data Analysis Technique

The collected data were analyzed using the Spearman rank correlation test to determine the strength and direction of relationships between variables. Statistical analysis was performed using SPSS version 24, which provides reliable tools for non-parametric data analysis. The results were then interpreted to draw meaningful conclusions based on the correlation values obtained.

RESULTS

It can be explained that 47 respondents had a good professional relationship with good quality nursing services. 10 respondents had a fairly good professional relationship with adequate quality nursing services, amounting to 2 respondents (20%).

Table 1. Frequency Distribution of Professional Relationships at Wijaya Kusumah Hospital, Kuningan

No	Professional Relationship	Frequency (F)	Presentation (%)
1.	Good	47	81.0
2.	Enough	10	17.2
3.	Not enough	1	1.7
Amount		58	100

Table 1 presents the frequency distribution of professional relationships at Wijaya Kusumah Hospital, Kuningan. The data indicate that the majority of respondents demonstrated good professional relationships, with a total of 47 individuals (81.0%). Meanwhile, 10 respondents (17.2%) were categorized as having sufficient (enough) professional relationships, and only 1 respondent (1.7%) was classified as having poor (not enough) professional relationships. Overall, these findings suggest that professional relationships among healthcare

personnel in the hospital are predominantly in the good category, reflecting a generally positive and collaborative working environment.

Table 2. Frequency Distribution and Percentage of Nursing Service Quality at Wijaya Kusumah Hospital, Kuningan

No	Quality of Nursing Services	Frequency (F)	Presentation (%)
1.	Good	55	94.8
2.	Enough	3	5.2
3.	Not enough	0	0
Amount		58	100

Respondent had a less good professional relationship, providing poor quality nursing services, amounting to 1 respondent (10%). Based on the results of the Spearman rank statistical test, the r value was obtained = -0.509 and p -value of 0.000 . Because the p -value $< \alpha = 0.05$, it can be concluded that H_0 is rejected and H_a is accepted, meaning "There is a relationship between professional relationships and the quality of nursing services at Wijaya Kusumah Hospital, Kuningan".

DISCUSSION

Research at Wijaya Kusumah Hospital, Kuningan (2025) showed that 81% of nurses had good professional relationships, with only 1.7% in the poor category. Furthermore, 94.8% of respondents rated the quality of nursing services as good, supported by indicators of reliability, responsiveness, assurance, empathy, and tangibles. Statistical analysis (Spearman's $r = -0.509$; $p = 0.000$) proved a significant relationship between professional relationships and service quality. This study shows that effective team collaboration through operants, nursing conferences, and nursing rounds plays a crucial role in improving service quality (Du et al., 2025; Lalloo et al., 2017).

These results align with Cicih's (2022) study at Majalengka Regional Hospital (65.11%) with a fairly good professional relationship, but are higher, indicating that Wijaya Kusumah Hospital has succeeded in building stronger team communication and coordination. Practices such as structured operants and nursing conferences reduce miscommunication, in contrast to previous findings (Nengsih et al., 2022) that identified conflict between nurses as a common problem. Consequently, hospitals need to maintain this collaborative model while deepening case discussions in conferences for greater consistency (Wang, 2024).

The high service quality rating (94.8% good) is consistent with Martha's (2023) study at Bakti Timah Hospital, particularly in the dimensions of empathy (74.71% good) and reliability (56.32% good). However, this finding contrasts with the Indonesian Ministry of Health's (2020) report, which stated that only 20% of healthcare facilities measure service quality. Wijaya Kusumah Hospital's success may be influenced by discipline in physical evidence (uniforms, neatness) and responsiveness, which are frequent complaints in other hospitals (Anggriani et al., 2021). Consequently, indicator-based service standardization has proven effective (Gattinger et al., 2017; Kawashima et al., 2020).

Professional relationships with nursing service quality show a positive relationship ($r=0.509$), meaning that better professional relationships lead to improved nursing service quality. Mechanisms such as nursing rounds accelerate the detection of patient problems

(responsiveness), while nursing conferences improve nurse competence (assurance) (Ghosh, S., Ramamoorthy, L., & Pottakat, B, 2021). This supports the ANA theory of collaboration as a pillar of patient safety. These findings reinforce Labrague et al.'s (2020) argument that patient complaints are reduced when team relationships are harmonious.

A key aspect of engagement is the importance of investing in team building, such as communication training and regular nursing conference evaluations. Wijaya Kusumah Hospital can serve as a model for hospitals with similar challenges, such as the Cilandak Marine Hospital (56.7% of practice scores were poor). Furthermore, the finding of high empathy (94.8%) confirms that psychological support among staff (Rohim & Pranatha, 2017) contributes to humane service.

Overall, good professional relationships are key to quality service at Wijaya Kusumah Hospital. Recommendations include (Dabas et al., 2023): (1) standardizing nursing conferences for in-depth case discussions, (2) regular monitoring of quality indicators, and (3) replicating this collaborative model in hospitals with high patient complaint rates. Further research could explore the specific impact of nursing rounds on patient satisfaction (Edel et al., 2025; Liebe et al., 2018).

CONCLUSION

Based on the research findings presented above, it can be concluded that there is a statistically significant relationship between professional relationships and the quality of nursing services at Wijaya Kusumah Hospital, Kuningan. This indicates that interpersonal and professional interactions among nurses play a crucial role in determining the standard of care delivered to patients. A positive and well-established professional relationship fosters effective communication, mutual respect, and collaboration, all of which contribute to improved patient outcomes. Conversely, weak professional relationships may lead to miscommunication, reduced teamwork, and a decline in service quality. Therefore, strengthening professional relationships within the nursing environment is an essential component in enhancing overall healthcare performance. These findings highlight the importance of maintaining a supportive and cooperative work culture among healthcare professionals.

In line with these conclusions, it is recommended that nurses adopt structured communication strategies to maintain and improve the quality of nursing care. One effective approach is the implementation of SBAR (Situation, Background, Assessment, Recommendation) during every shift handover to ensure clarity and continuity of patient information. Additionally, regular nursing conferences should be conducted both before and after shifts to facilitate discussion, evaluation, and planning of patient care. Nursing rounds should also be carried out whenever necessary to monitor patient progress and address emerging issues promptly. By consistently applying these strategies, nurses can strengthen professional relationships while simultaneously improving the quality and safety of healthcare services provided to patients.

AUTHOR CONTRIBUTIONS

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.

Author 2: Conceptualization; Data curation; In-vestigation.

Author 3: Data curation; Investigation.

CONFLICTS OF INTEREST

The authors declare no conflict of interest

REFERENCES

- Cloyd, J. M., Sarna, A., Arango, M. J., Bates, S. E., Bhutani, M. S., Bloomston, M., Chung, V., Dotan, E., Ferrone, C. R., Gambino, P. F., Goenka, A. H., Goodman, K. A., Hall, W. A., He, J., Hogg, M. E., Jayaraman, S., Kambadakone, A., Katz, M. H. G., Khorana, A. A., ... Snyder, R. A. (2025). Best Practices for Delivering Neoadjuvant Therapy in Pancreatic Ductal Adenocarcinoma. *JAMA Surgery*, 160(2), 172–180. Scopus. <https://doi.org/10.1001/jamasurg.2024.5191>
- Dabas, P., Malhotra, P., Sharma, G., Challinor, J., Galassi, A., & Sukumara, S. (2023). Changing Practice Through Nursing Leadership: A Pediatric Oncology Unit in Delhi, India. *Journal of Pediatric Hematology/Oncology Nursing*, 40(5), 338–350. Scopus. <https://doi.org/10.1177/27527530231193973>
- Djiadeu, P., Djiometio, J., Mukandoli, C., Odhiambo, A. J., Lightfoot, D., Mbuagbaw, L., & Nelson, L. E. (2019). Barriers to HIV care among Francophone African, Caribbean and Black immigrant people living with HIV in Canada: A protocol for a scoping systematic review. *BMJ Open*, 9(1). Scopus. <https://doi.org/10.1136/bmjopen-2018-027440>
- Du, X., Tang, L., Wang, X., Feng, X., Zeng, L., Wu, F., Tao, J., & Zhang, X. (2025). Construction of nursing quality evaluation index system for perianal infection in patients with hematologic neoplasms. *Chinese Journal of Practical Nursing*, 41(14), 1041–1049. Scopus. <https://doi.org/10.3760/cma.j.cn211501-20240801-02075>
- Edel, A., Jöbges, S., Weiß, B., Paul, N., Lyall, M. L., Hoffmann, C., Schüürhuis, S., Piper, S. K. K., Konietzschke, F., Berger, E., Busse, R., Marschall, U., Kraufmann, B., Witzenrath, M., Eckardt, K.-U., & Spies, C. (2025). Development of intersectoral medical care for patients with ‘chronic critical illness’: Protocol for a telemedicine interventional study with a pre-post design in out-of-hospital intensive care facilities (E=MC²). *BMJ Open*, 15(9). Scopus. <https://doi.org/10.1136/bmjopen-2025-098796>
- Gattinger, H., Hantikainen, V., Ott, S., & Stark, M. (2017). Effectiveness of a mobility monitoring system included in the nursing care process in order to enhance the sleep quality of nursing home residents with cognitive impairment. *Health and Technology*, 7(2–3), 161–171. Scopus. <https://doi.org/10.1007/s12553-016-0168-9>
- Halm, M. A. (2023). An objective test to measure evidence-based practice knowledge and skill competency of acute care nurses: A psychometric validation study. *Worldviews on Evidence-Based Nursing*, 20(3), 269–280. Scopus. <https://doi.org/10.1111/wvn.12639>
- Kawashima, T., Tanaka, M., Kawakami, A., & Muranaka, S. (2020). Nurses’ contribution to end-of-life family conferences in critical care: A Delphi study. *Nursing in Critical Care*, 25(5), 305–312. Scopus. <https://doi.org/10.1111/nicc.12512>
- Laloo, D., Demou, E., Stevenson, M., Gaffney, M., & MacDonald, E. B. (2017). Comparison of competency priorities between UK occupational physicians and occupational health nurses. *Occupational and Environmental Medicine*, 74(5), 384–386. Scopus. <https://doi.org/10.1136/oemed-2016-104049>
- Liebe, J.-D., Esdar, M., & Hübner, U. (2018). Measuring the Availability of Electronic Patient Data Across the Hospital and Throughout Selected Clinical Workflows. In U. Hubner, U. Sax, H.-U. Prokosch, B. Breil, H. Binder, A. Zap, B. Strahwald, T. Beissbarth, N. Grabe, & A. Scholer (Eds.), *Stud. Health Technol. Informatics* (Vol. 253, pp. 99–103). IOS Press Nieuwe Hemweg 6B Amsterdam 1013 BG; Scopus. <https://doi.org/10.3233/978-1-61499-896-9-99>
- Cicuh Ratna Nengsih, Mulyati, AN (2022). Attitudes in Ethical Dilemmas and Professional Attitudes of Nurses. 6, 1–23.
- Dwi Sandiyah, C., & Mustriwi, M. (2021). Nurses' Caring Attitudes Towards Hospitalized

- Patients. Hesti Wira Sakti Health Journal, 9(2), 81–89. <https://doi.org/10.47794/jkhws.v9i2.333>
- Ghosh, S., Ramamoorthy, L., & pottakat, B. (2021). Impact of Structured Clinical Handover Protocol on Communication and Patient Satisfaction. *Journal of Patient Experience*, 8, 1–6. <https://doi.org/10.1177/2374373521997733>
- Khan, T., Khan, U., Khan, A., Mollan, C., Morkvenaite-Vilkonciene, I., & Pandey, V. (2025). Data-Driven Digital Twin Framework for Predictive Maintenance of Smart Manufacturing Systems. *Machines*, 13(6). Scopus. <https://doi.org/10.3390/machines13060481>
- Kogel-Hollacher, M., Nicolay, T., Reiser, J., Boley, S., Schwarz, J., & Pallier, G. (2025). Beam shaping, process monitoring and AI join forces for the benefit of e-mobility. In Kaierle S. & Kleine K.R. (Eds.), *Proc SPIE Int Soc Opt Eng* (Vol. 13356). SPIE; Scopus. <https://doi.org/10.1117/12.3044297>
- Kumar, D., Kuntal, R. S., Deep, P., Chamoli, A. S., Singh, P., & Mandal, R. (2025). Cloud Based Automated Control System Workshops and Rooms for Controlling Parameters. *Int. Conf. Adv. Comput. Sci., Electr., Electron., Commun. Technol., CE2CT*, 1116–1121. Scopus. <https://doi.org/10.1109/CE2CT64011.2025.10939521>
- Labrague, L.J., De los Santos, J.A.A., Tsaras, K., Galabay, J.R., Falguera, C.C., Rosales, R.A., & Firmo, C.N. (2020). The association of nurse caring behaviors on missed nursing care, adverse patient events and perceived quality of care: A cross-sectional study. *Journal of Nursing Management*, 28(8), 2257–2265. <https://doi.org/10.1111/jonm.12894>
- López Cárdenas, W.I., Henao Murillo, N.A., Gil Vidal, E., Altamirano Ceron, R.M., Santa Mejía, Y.A., & Jurado Jiménez, A.C. (2022). Care Perceptions in two ICU Nursing Care Delivery Models: A qualitative-comparative approach. *Investigación y Educación En Enfermería*, 40(3). <https://doi.org/10.17533/udea.iee.v40n3e15>
- Martha Dwi Novalia, Umi Eliawati, & Utari Christya Wardhani. (2023). The Relationship Between Nursing Service Quality and Outpatient Satisfaction at Karimun Regional General Hospital in 2023. *Detector: Journal of Research InnovationHygiene*, 2(1), 49–61. <https://doi.org/10.55606/detector.v2i1.3139>
- Nengsih, CR, Mulyati, M., & Novilla, A. (2022). Attitudes in Ethical Dilemmas and Nurses' Professional Attitudes towards Service Quality. *Silampari Nursing Journal*, 6(1), 366–376. <https://doi.org/10.31539/jks.v6i1.4386>
- Patrica A. Potter, Anne Gri Stockert, A.H. (2021). *Fundamentals of Nursing* (N/A (No separate editors listed) (ed.); 10th Editi). Elsevier. <https://www.elsevier.com/books/fundamentals-of-nursing/potter/978-0-323-81049-5>
- Rohim, A., & Pranatha, A. (2017). The Effect of the Professional Nursing Service Delivery System Using the Team Method on Patient Satisfaction and Nurse Satisfaction in the Inpatient Installation of the 45th Regional General Hospital, Kuningan. *Bhakti Husada Kuningan Health Science Journal*, 06(02), 1–11. <https://ejournal.stikku.ac.id/index.php/stikku/article/view/46>
- Saravanakumar, C., Marirajan, S., Pandian, A., & Durgadevi, K. (2025). Advancing Genomic Diagnostics: Fast Fourier Transform Optimization and Machine Learning in Huntington's Disease Detection. *Journal of Electronics, Electromedical Engineering, and Medical Informatics*, 7(2), 283–294. Scopus. <https://doi.org/10.35882/jeeemi.v7i2.650>
- Sridev, J., Deen, A. R., Younus Ali, M. Y., Ting, W.-T., Deen, M. J., & Howlader, M. M. R. (2025). Advanced Electrochemical Sensors for Rapid and Sensitive Monitoring of Tryptophan and Tryptamine in Clinical Diagnostics. *Biosensors*, 15(9). Scopus. <https://doi.org/10.3390/bios15090626>

- Stark, Z., Byrne, A. B., Sampson, M. G., Lennon, R., & Mallett, A. J. (2025). A guide to gene–disease relationships in nephrology. *Nature Reviews Nephrology*, 21(2), 115–126. Scopus. <https://doi.org/10.1038/s41581-024-00900-7>
- Sengupta, J. (2020). A Comprehensive Survey on Attacks, Security Issues and Blockchain Solutions for IoT and IIoT. *Journal of Network and Computer Applications*, 149(Query date: 2025-12-16 22:38:55). <https://doi.org/10.1016/j.jnca.2019.102481>
- Sharma, P. K. (2018). A Software Defined Fog Node Based Distributed Blockchain Cloud Architecture for IoT. *IEEE Access*, 6(Query date: 2025-12-16 22:38:55), 115–124. <https://doi.org/10.1109/ACCESS.2017.2757955>
- Sharma, R. (2020). A systematic literature review on machine learning applications for sustainable agriculture supply chain performance. *Computers and Operations Research*, 119(Query date: 2025-12-16 22:38:55). <https://doi.org/10.1016/j.cor.2020.104926>
- Sintari, SNN, Subhaktiyasa, PG, & Andriana, KRF (2022). The Relationship of Nursing Service Quality to Patient Satisfaction. *Public Inspiration: Journal of Public Administration*, 7(2), 81–88. <https://doi.org/10.22225/pi.7.2.2022.81-88>
- Tyas, DI, Asmuji, & Hidayat, CT (2021). The Relationship Between the Implementation of Nursing Career Ladders and the Quality of Nursing Services at Jember Hospital. *Frontiers in Neuroscience*, 14(1), 1–13.
- Wang, W. (2024). Emergency patients' satisfaction with humanistic caring and its associated factors in Chinese hospitals: a multi-center cross-sectional study. July. <https://doi.org/10.3389/fpubh.2024.1414032>
- Zhang, Y., Wang, B., Wang, Z., Yang, J., Gao, L., & Zhao, Z. (2025). Design and implementation of intelligent operation and maintenance system in edge computing environment. In Liu Y. (Ed.), *Proc SPIE Int Soc Opt Eng* (Vol. 13552). SPIE; Scopus. <https://doi.org/10.1117/12.3060441>
- Zhang, Z., & Zhang, H. (2025). APPLICATION OF BIG DATA ANALYSIS IN INTELLIGENT INDUSTRIAL DESIGN USING SCALABLE COMPUTATIONAL MODEL. *Scalable Computing*, 26(3), 1180–1195. Scopus. <https://doi.org/10.12694/scpe.v26i3.4381>

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