

A MAPPING GLOBAL RESEARCH ON HOSPITAL AREA MALPRACTICE IN DEVELOPMENT & DEVELOPING COUNTRIES: A BIBLIOMETRIC PERSPECTIVE

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Abstract

Hospital malpractice persists globally due to multiple contributing factors. This study offers an evidence-based overview of the development of hospital malpractice research through bibliometric analysis. A total of 444 Scopus-indexed publications from 2019 to 2025 containing the terms “hospital” and “malpractice” were reviewed and categorized into developed and developing country groups. VOSviewer and NVivo 12 Plus supported the analytical process. Results indicate a significant increase in malpractice-related publications during the COVID-19 pandemic (2020–2021) across both groups. Recent research trends highlight patient safety and patient satisfaction as dominant themes. Additional emerging topics include ethical considerations, diagnostic errors and their effects on children, and broader implications of malpractice. The findings emphasize the need for stronger collaboration and clearer communication between patients and healthcare professionals as essential strategies for reducing and preventing malpractice within hospital environments.

Keywords: Malpractice; Medical; Hospital; COVID-19; Bibliometric Analysis.

INTRODUCTION

Alleged incidents of negligence and medical malpractice remain common in the healthcare sector (Taneja et al., 2021). When a physician fails to diagnose or treat a patient according to established standards, the action is considered medical malpractice (Hösükler et al., 2021). Such malpractice can cause physical and psychological harm to patients, posing a serious threat to the healthcare system in every country (Rawash et al., 2025). A major contributing factor is the lack of adequate supervision or monitoring, which can increase the likelihood of misconduct and the assumption of greater responsibility for medical errors (Lv et al., 2021). Inadequate consent procedures also lead to medical misconduct, poor patient outcomes, and legal disputes among healthcare professionals (Negash et al., 2021). Moreover, the absence of timely, high-quality informed consent creates a barrier between patients and healthcare providers, discourages the use of medical services, increases malpractice claims, and fosters negative perceptions of the healthcare system (Ababulgu et al., 2022). For both patients and healthcare professionals, complaint procedures can bring serious physical and psychological consequences (Kılıç et al., 2024). As a result, many medical practitioners have urged policy-makers to address the rise in complaints and medicolegal malpractice claims (Bilotta et al., 2020).

Malpractice-related events continue to occur globally across various contexts. For example, at least 830 women worldwide die each day due to pregnancy- and childbirth-related complications, with the majority of these deaths occurring in developing countries (Ebabu & Muhammed, 2021). Several countries have also reported widespread cases of mistreatment and disrespect during childbirth (Aguilar et al., 2020). Additionally, antibiotic prophylaxis errors remain common in obstetrics and gynecology and can be mitigated through improved antibiotic stewardship (Abubakar et al., 2019). Incidents of workplace violence, particularly those committed by patients against healthcare workers, have drawn significant public concern in China, posing risks to providers and highlighting broader tensions between patients and physicians, which hinder efforts to improve healthcare quality and access (Cai et al., 2019).

Furthermore, the COVID-19 pandemic has created new medicolegal challenges, potentially contributing to a prolonged suspension or delay in malpractice claims (Mastalier et al., 2022). Although normative and ethical practices are essential for healthcare workers, maintaining them became increasingly difficult during the pandemic, when workloads and responsibilities escalated sharply (Zhou & Zhang, 2022). Consequently, healthcare professionals experienced heightened physical and emotional exhaustion. Burnout has been associated with increased malpractice lawsuits, treatment errors, patient mortality, substance misuse, and suicidal ideation among medical personnel (Sung et al., 2021). In China, for instance, the prevalence and contributing factors of burnout warrant continuous attention due to their implications for healthcare quality and reform

(Guo & Liang, 2021). During the pandemic, healthcare facilities faced extraordinary pressures, such as rapidly increasing bed capacity and securing personal protective equipment for staff (Bilotta et al., 2020). Throughout the COVID-19 crisis, healthcare institutions were strongly encouraged to adopt preventive measures to reduce legal risks, particularly in the absence of targeted and effective treatment options (Lashin et al., 2024).

A considerable amount of attention has been directed toward missed and delayed diagnoses as major concerns in patient safety and healthcare quality (Grenon et al., 2023). Identifying and reporting medical errors is one of the most essential steps in improving patient safety, which explains why patient safety and medical errors have become prominent topics in recent years (Ozer et al., 2019). As a component of healthcare malpractice, negligence poses significant risks to patient safety, creates anxiety among healthcare professionals, imposes financial burdens on the system, and hinders overall progress (Moukalled & Elhaj, 2021). Detecting and disclosing medical errors remains a critical element in the implementation of patient safety measures (Ozer et al., 2019). Data derived from malpractice lawsuits can also indicate potential risks and contribute to reducing medical errors while enhancing patient safety (Li et al., 2020). Because unethical behavior is associated with patient complications, malpractice claims, and concerns regarding staff well-being, healthcare leaders have opportunities to support their teams by monitoring recurring issues and individuals repeatedly involved in reports (Cooper et al., 2024). Beyond reducing malpractice and improving clinical outcomes, patient satisfaction is crucial for enhancing healthcare quality and serves as a valuable predictor of health outcomes (Asres et al., 2020). As both a direct and indirect indicator of healthcare quality, patient satisfaction influences patient retention, treatment outcomes, and the likelihood of malpractice claims (Alemu et al., 2025). Therefore, roles and responsibilities in healthcare continue to evolve alongside scientific and technological advancements (Turan & Kaya, 2019).

Malpractice occurs across all sectors worldwide and remains a major concern within the healthcare system. However, previous research has largely focused on general reports of malpractice within hospital settings. To address this gap, the present study applied bibliometric techniques to examine global research trends, keyword networks, and geographical distributions using VOSviewer and NVivo. This approach enabled an objective and quantitative assessment of global research patterns on hospital-related malpractice. For researchers, policymakers, and medical practitioners, this study offers a more comprehensive, evidence-based understanding of the development and direction of hospital malpractice research.

METHOD

Data Collection

Data were obtained from the Scopus online database. The search was conducted on March 4, 2025, to minimize potential bias caused by daily database updates. The terms “malpractice” and “hospital” were used to identify relevant studies published between 2019 and 2025. The initial search yielded 768 studies. Only English-language documents categorized as articles or short surveys were included. Next, studies were screened based on their relevance to the following subject areas: medicine, nursing, social sciences, pharmacology, toxicology, and pharmaceuticals, health professions, multidisciplinary, arts and humanities, decision sciences, neuroscience, environmental science, and dentistry. After applying all criteria, a total of 444 papers were downloaded and examined. Furthermore, as shown in Table 1, countries were classified into two groups: developed and developing. Figure 1 presents the complete search strategy procedure.

TABLE 1 .Grouping of Countries in the World

Group	Country
Developed Countries (21 total)	United States, Italy, United Kingdom, Australia, Germany, United Arab Emirates, Norway, Austria, Switzerland, Sweden, Slovenia, Singapore, Saudi Arabia, Romania, Portugal, Poland, New Zealand, Malta, France, Cyprus, Belgium
Developing Countries (35 total)	China, Turkey, Ethiopia, India, Pakistan, South Africa, Iran, Brazil, Egypt, Taiwan, Indonesia, Nigeria, Malaysia, Jordan, Ukraine, Uganda, Turkiye, Tunisia, Tanzania, Nepal, Mexico, Lebanon, Kazakhstan, Bulgaria, Bangladesh, Thailand, Sudan, Russian Federation, Iraq, Fiji, Côte d’Ivoire, Colombia, Bosnia and Herzegovina, Bhutan, Azerbaijan

Source: (International Council on Archives, 2024; United Nations Industrial Development Organization, 2024; WorldData.info; 2025)

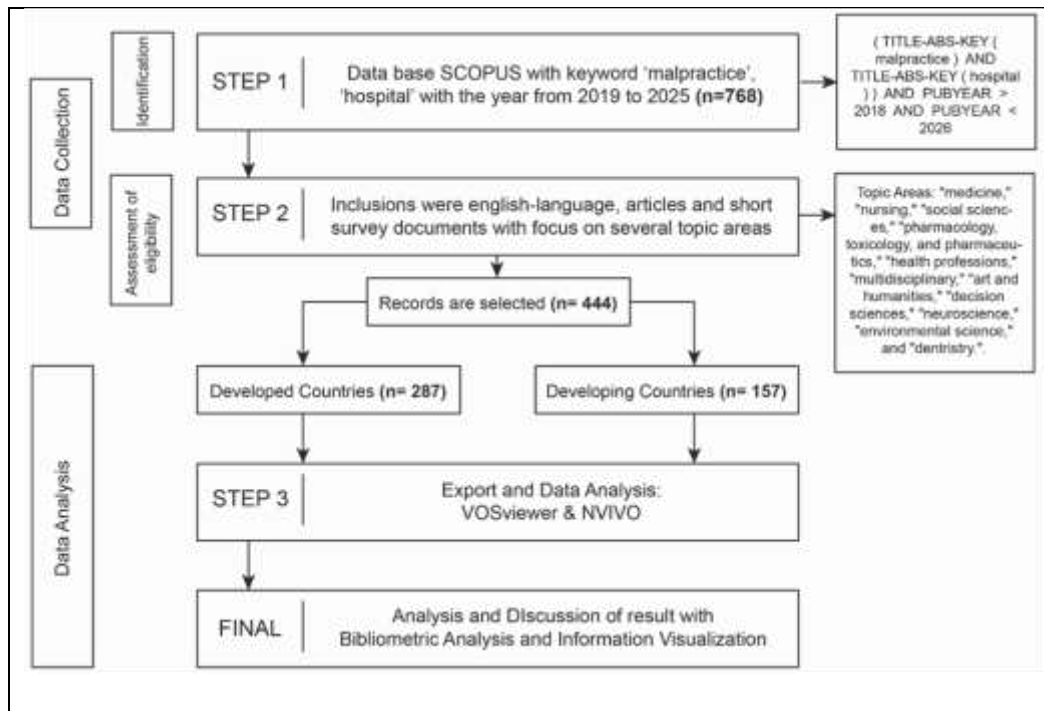


FIGURE 1. Research Strategy Procedure

Data Analysis

Data were exported using the RIS file format to enable the transfer of research mapping information. Three analytical techniques were then applied to construct the bibliometric maps: Scopus menu search results analysis, VOSviewer, and NVivo. This study described the included papers, annual scientific output, geographic distribution, impact, and thematic trends using bibliometric indicators. Trend topics were visualized annually. VOSviewer was used to create a bibliometric network based on keyword co-occurrence, focusing on major or influential themes. In this study, VOSviewer visualizations were generated with a minimum threshold of seven keyword occurrences. Additionally, NVivo was employed to analyze word frequency patterns of the top 50 keywords.

RESULTS

Annual Scientific Output and Influence of Trending Topics

The global evolution of research on hospital area malpractice is illustrated in Figure 2. Reports of malpractice in hospital settings continue to emerge across developed and developing countries over time, as reflected in the publication trends shown in Figure 2.

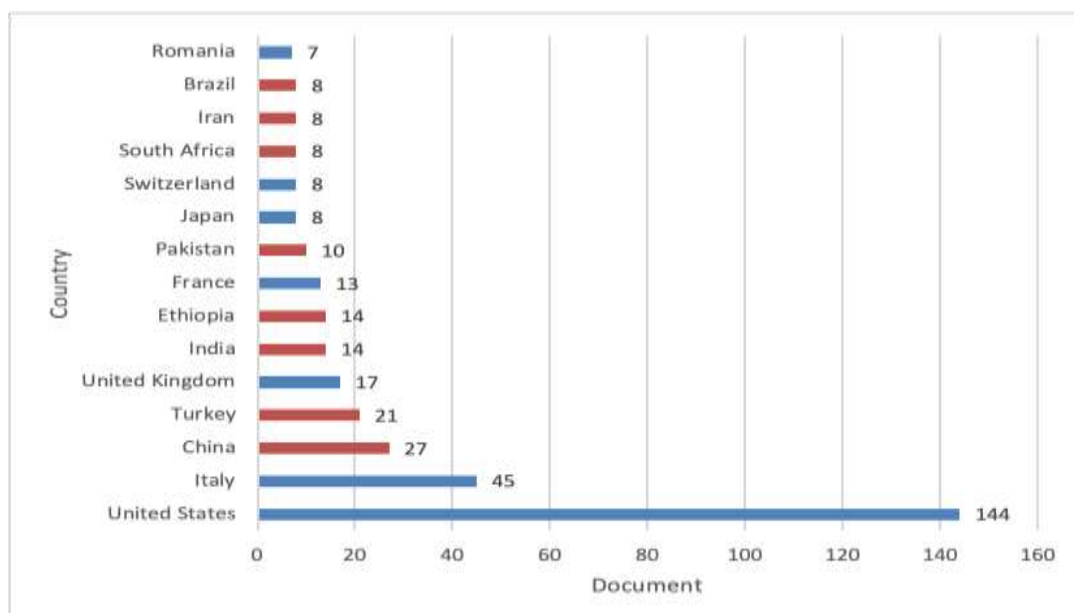


FIGURE 2. The Evolution of Research on Hospital Area Malpractice

The number of publications in both country groups rose significantly between 2019 and 2021, indicating that research interest in this topic has become increasingly prominent in recent years. In developed countries, the highest number of documents appeared in 2019 ($n = 54$), followed by 2020 ($n = 50$) and 2021 ($n = 53$). In developing countries, the highest output was recorded in 2024 ($n = 33$), followed by 2020 ($n = 31$). Figure 2 also shows a similar upward trend in both settings between 2020 and 2021. This pattern suggests that the COVID-19 pandemic may have contributed to a rise in research attention, given the heightened exposure of healthcare systems to malpractice-related risks during crisis periods. Overall, these results indicate a growing academic concern regarding hospital malpractice and highlight the importance of sustained preventive efforts. As of March 2025, five publications from developed countries and six from developing countries have already been recorded.

The keyword analysis performed using VOSviewer offers further insight into annual thematic patterns across studies from 2019 to 2025, as presented in Figure 3. The analysis aimed to identify the dominant topics and research focuses in the field of hospital area malpractice. In recent years, “satisfaction” has emerged as the most prominent keyword across both developing and developed countries.

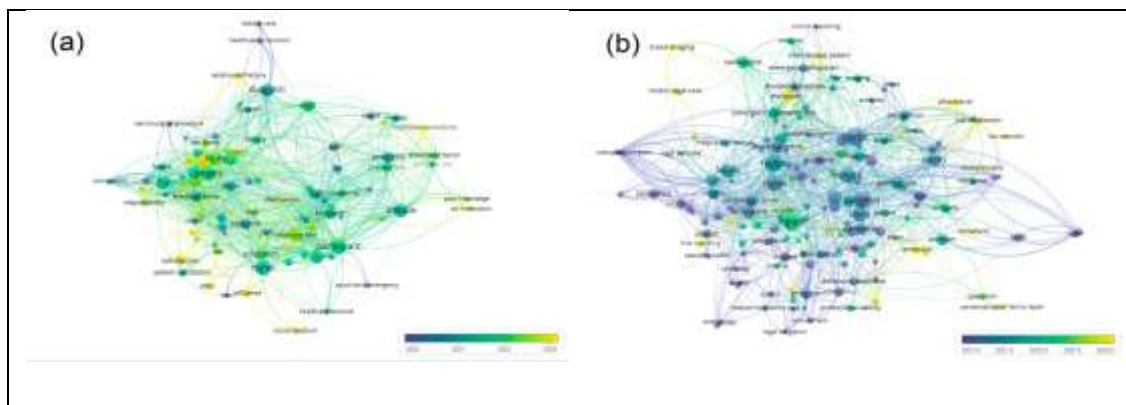


FIGURE 3. Relationship Overlay Visualization of Hospital Area Malpractice Publications: (a) Developing Countries, (b) Developed Countries

Beyond “satisfaction,” several terms, such as “art medication,” “traditional uvulectomy,” “epiphyseal fracture,” “influence,” “effectiveness,” and “ethic,” appeared frequently in the developing-country dataset. In developed countries, common topics included pharmacist, home birth, caregiver, cardiac surgery, SOS operator, breast imaging, and international patients. These findings help scholars and policymakers understand the most pressing malpractice concerns in hospital management and may guide the formulation of more targeted interventions.

Analysis of word frequencies over time further highlights shifting patterns in malpractice-related discussions (see Table 2). Based on NVivo 12 Plus results, the four most frequent categories in developing countries were medical (1.37%), health (1.25%), malpractice (1.02%), and hospital (0.79%). Less frequently discussed terms included burnout (0.21%), education (0.22%), and satisfaction (0.22%). In developed countries, the most common categories were medical (1.19%), patient (1.19%), health (1.33%), and malpractice (1.39%). Topics such as injury (0.20%), cost (0.19%), death (0.19%), and insurance (0.18%) appeared far less often. These underrepresented subjects present opportunities for future research in both contexts.

TABLE 2. Trending Topics Based on Authors’ Keywords

Developing Countries				Developed Countries			
Word	Length	Count	Weighted Percentage (%)	Word	Length	Count	Weighted Percentage (%)
medical	7	7748	1.37	malpractice	11	18294	1.39
health	6	7110	1.25	health	6	17550	1.33
malpractice	11	5806	1.02	patient	7	15720	1.19
hospital	8	4506	0.79	medical	7	15624	1.19
patient	7	4444	0.78	hospital	8	13770	1.04
patients	8	3564	0.63	risk	4	12466	0.95
hospitals	9	2668	0.47	claims	6	12136	0.92

clinical	8	2614	0.46	clinical	8	8644	0.66
human	5	2446	0.43	safety	6	6684	0.51
Female	6	2316	0.41	emergency	9	6612	0.5

Geographical Distributions

A total of 444 publications on hospital area malpractice were identified across 69 countries or territories. Data from the fifteen countries with the highest research activity in this field are presented in Figure 4. Each country is shown in a different color: orange for developing countries and blue for developed countries. The figure also includes a brief description and the corresponding number of publications for each country. Developing countries contributed 53.3% (8 countries) of the publications within the top 15, while developed countries accounted for 46.7% (7 countries).

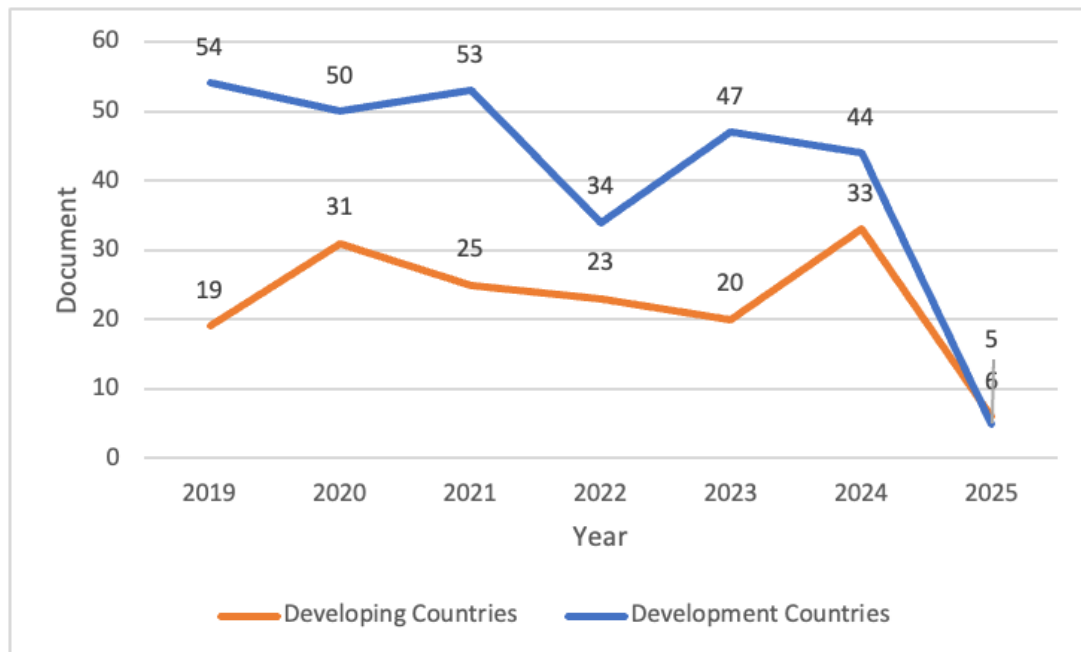


FIGURE 4. Countries of Origin of Research Authors: (a) Orange = Developing Countries, (b) Blue = Developed Countries

Furthermore, notable differences emerged between developing and developed countries. The United States (US) remained the leading country in hospital malpractice research, producing 144 publications, approximately five times more than China, the highest-contributing developing country, with 27 publications. Many authors were affiliated with top US universities, reflecting the country's strong presence and commitment to advancing knowledge in this field. Public awareness in the US regarding health-related environmental issues also grew consistently. Of the 69 countries identified, 35 were classified as developing and 34 as developed. This distribution indicates that, in terms of geographical spread, hospital malpractice issues were more prevalent in developing countries. Nevertheless, developed countries produced a larger overall number of publications (287 papers) compared to developing countries (157 papers). These findings underscore the importance of strengthening global research collaboration on healthcare corporatization to better understand and prevent malpractice-related problems.

Most Influential Publications

TABLE 3. Most Significant Citations

Developing Countries				Developed Countries			
Title	Author and Publication's year	Source	Frequency of Citation	Title	Author and Publication's year	Source	Frequency of Citation
Violence against health care workers in China, 2013-2016: Evidence from the	Cai et al. (2019)	Human Resources for Health, 17(1), 103	62	The Safety of Inpatient Health Care	Bates et al. (2023)	New England Journal of Medicine, 388(2), pp. 142-153	171

national judgment documents							
Impact of pharmacist-led antibiotic stewardship interventions on compliance with surgical antibiotic prophylaxis in obstetric and gynecologic surgeries in Nigeria	Abubakar et al. (2019)	PLoS ONE, 14(3), e0213395	62	Survey of cataract surgeons' and nurses' attitudes toward operating room waste	Chang & Thiel (2020)	Journal of Cataract and Refractive Surgery, 46(7), pp. 933–940	59
The relationship between psychological health and social support: Evidence from physicians in China	Sun et al. (2020)	PLoS ONE, 15(1), e0228152	54	Hospital-acquired sars-cov-2 infections in patients: Inevitable conditions or medical malpractice?	Bar-ranco et al. (2021)	International Journal of Environmental Research and Public Health, 18(2), pp. 1–9, 489	52
Knowledge, attitude and preventive practices related to COVID-19 among health professionals of Punjab province of Pakistan	Salman et al. (2020)	Journal of Infection in Developing Countries, 14(7), pp. 707–712	34	Prosthetic joint infections and legal disputes: a threat to the future of prosthetic orthopedics	Basile et al. (2021)	Journal of Orthopaedics and Traumatology, 22(1), 44	35
Armed conflicts and kidney patients: a consensus statement from the Renal Disaster Relief Task Force of the ERA	Sever et al. (2023)	Nephrology Dialysis Transplantation, 38(1), pp. 56–65	31	Association of Occupational Distress and Sleep-Related Impairment in Physicians With Unsolicited Patient Complaints	Welle et al. (2020)	Mayo Clinic Proceedings, 95(4), pp. 719–726	33
Knowledge, attitude and practice (KAP) survey of canine rabies in Khyber Pakhtunkhwa and Punjab Province of Pakistan	Ahmed et al. (2020)	BMC Public Health	27	Medical records quality as prevention tool for healthcare-associated infections (HAIs) related litigation: A case series	Albano et al. (2019)	Current Pharmaceutical Bio-technology, 20(8), pp. 653–657	31
Effects of music therapy on occupational stress and burn-out risk of operating room staff	Kacem et al. (2020)	, 20(1), 1293	27	Health Care Price Transparency in Ophthalmology	Berkowitz et al. (2021)	JAMA Ophthalmology, 139(11), pp. 1210–1216	30
Mental health crisis in healthcare providers in the COVID-19 pandemic: A cross-sectional facility-based survey	Sung et al. (2021)	Libyan Journal of Medicine, 15(1), 1768024	22	Practice Characteristics and Job Satisfaction of Private Practice and Academic Surgeons	Ma-honey et al. (2021)	JAMA Surgery, 156(3), pp. 247–254	30

The impacts of corporatisation of healthcare on medical practice and professionals in Maharashtra, India	Marathe et al. (2020)	BMJ Open, 11(7), e052184	22	Factors and impact of physicians' diagnostic errors in malpractice claims in Japan	Watari et al. (2020)	PLoS ONE, 15(8 August), e0237145	30
Retrospective analysis of medical malpractice claims in tertiary hospitals of China: The view from patient safety	Li et al. (2020)	BMJ Global Health, 5(2), e002026	20	COVID-19 and rhinology: A look at the future	Setzen et al. (2020)	American Journal of Otolaryngology - Head and Neck Medicine and Surgery, 41(3), 102491	29

Table 3 presents the ten most influential publications on hospital area malpractice based on total citations, highlighting key studies and their lasting impact. Studies from developing countries are shown in orange columns, while those from developed countries appear in blue. The article “Violence against health care workers in China, 2013–2016: Evidence from the national judgment documents” by Cai et al. (2019), published in the *Human Resources for Health*, ranked first among developing countries with 62 citations. This study underscores the urgent need to address patient-initiated violence, which often intersects with perceived medical malpractice. A similarly cited paper was the work of Abubakar, Sulaiman, and Adesiyun (2019), “Impact of pharmacist-led antibiotic stewardship interventions on compliance with surgical antibiotic prophylaxis in obstetric and gynecologic surgeries in Nigeria.” Although listed as published in *PLoS ONE* (not *Human Pathology*), it also received 62 citations, indicating its strong contribution to improving knowledge and practice regarding appropriate surgical antibiotic prophylaxis. On the developed-country side, the study with the highest citation count was Bates et al. (2023), “The Safety of Inpatient Health Care,” published in the *New England Journal of Medicine*, with 171 citations. This highlights the continued critical importance of reporting and addressing malpractice risk within hospital environments. Following this was Chang and Thiel’s (2020) article, “Survey of cataract surgeons’ and nurses’ attitudes toward operating room waste,” published in the *Journal of Cataract and Refractive Surgery*, which had 59 citations. Its citation impact reflects the relevance of understanding healthcare professionals’ attitudes toward operating room waste management and its connection to malpractice concerns.

Prominent Key Topics

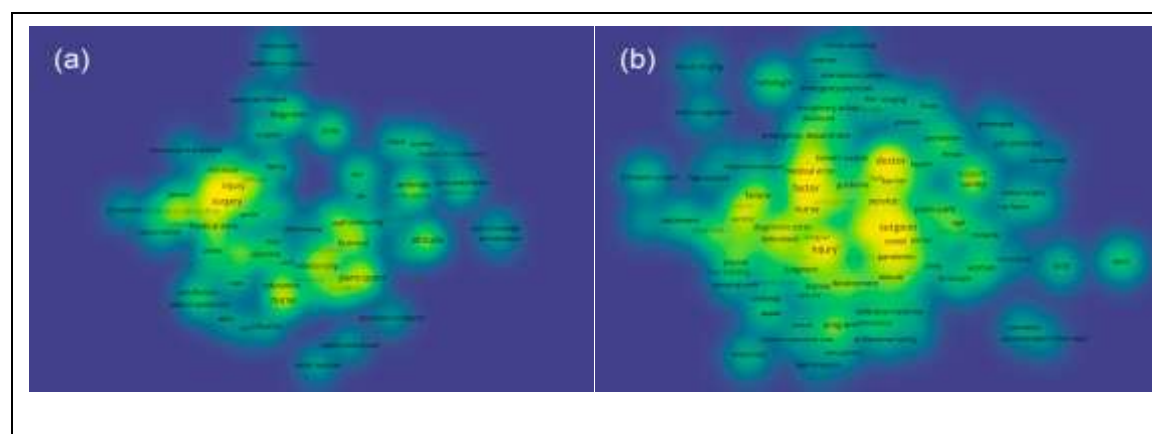


FIGURE 5. Density Visualization Analysis of Hospital Area Malpractice: (a) Developing Countries, (b) Developed Countries

The scope of research on hospital area malpractice under various circumstances is illustrated through density visualizations, as shown in Figure 8. The color-coded appearance of each keyword reflects its item density. “Surgery,” “injury,” and “COVID” emerged as the most prominent and recurrent terms in both Figure 5(a) and 5(b), indicating similar research emphases between 2019 and 2025. These findings suggest that the scientific community’s primary focus during this period revolved around the impacts of the COVID-19 pandemic, particularly in relation to disease transmission, organizational management, and the mitigation of adverse human-related consequences within hospital environments.

In Figure 5(a), the diffuse color shading indicates keywords that appeared less frequently in studies from developing countries, specifically "job satisfaction," "medicolegal case," "clinical reasoning," "legal outcome," and "legal obligation." A similar pattern is shown in Figure 5(b) for developed countries, where "pool knowledge," "ethics," "health professionals," and "psychiatric emergency" exhibited low frequency. The presence of diffuse coloration suggests that these research themes remain in their early stages, offering researchers opportunities to address existing knowledge gaps by expanding investigations into these understudied areas.

The principal topics were further identified through a co-occurrence analysis of high-frequency keywords. A minimum threshold of seven keyword occurrences was applied, and several irrelevant terms were excluded from the analysis. Subsequently, a bibliometric approach was used to highlight the most frequently appearing terms. As shown in Figure 6, multiple clusters were formed based on keyword similarities, with each cluster represented by a distinct color.

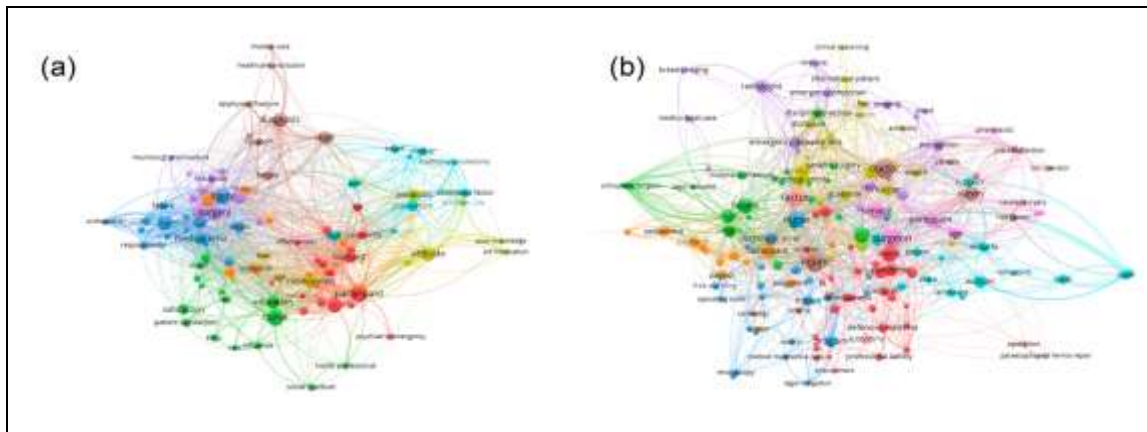


FIGURE 6. Network Visualization Analysis of Hospital Area Malpractice: (a) Developing Countries, (b) Developed Countries

Figure 6(a) illustrates eight clusters comprising 96 keywords from developing countries, each represented by a distinct color. **Cluster 1 (Red)**, accounting for 20.83% of the total, centers on Healthcare Conditions During the COVID Era. Keywords such as "COVID", "pandemic", "burnout", "workload", "effectiveness", "healthcare provider", and "work" indicate sustained scholarly attention to healthcare system pressures during the pandemic. **Cluster 2 (Green)** represents Patient Care and Medical Ethics (15.63%), reflected in terms like "professionalism", "legal issues", "patient experience", and "resolution". **Cluster 3 (Blue)**, also at 15.63%, emphasizes The Scope of Malpractice in Healthcare Corporations, with prominent terms including "malpractice case", "medical error", "medical malpractice claim", and "medical malpractice litigation". **Cluster 4 (Yellow)**, comprising 11.46% of the keywords, highlights Risk Factors for Malpractice Issues, including "poor knowledge", "attitude", "financial burden", "art medication", "gender", and "tertiary care hospital". **Cluster 5 (Purple)** accounts for 10.42% and focuses on Medico-Legal Risks and Compensation in Neurosurgical Procedures, as indicated by terms such as "compensation", "compliance", "neurosurgery", and "decision-making". **Cluster 6 (Light Blue)**, covering 9.37%, is associated with Traditional Uvilectomy Among Infants, illustrated by keywords like "prevalence", "associated factor", "traditional uvilectomy", and "infant". **Cluster 7 (Orange)** represents 8.33% and examines The Effects of Malpractice, with common terms including "claim", "complaint", and "violence". Cluster 8 (Chocolate), also at 8.33%, concerns Diagnostic Errors and Their Effects on Children, signaled by "misdiagnosis", "child", and "epiphyseal fracture". Despite covering a broad set of topics, the findings suggest that certain themes, particularly those in Clusters 7 and 8, remain underexplored, evidenced by their relatively low presence in the literature.

Additionally, Figure 6(b) for developed countries comprises 10 clusters encompassing 169 keywords. **Cluster 1 (Red)**, representing 17.75%, predominantly discusses Malpractice Conditions in Healthcare Facilities During the Pandemic Era, supported by terms such as "COVID", "defensive", "medicine", "healthcare professional", and "pandemic". **Cluster 2 (Green)**, comprising 13.61%, focuses on Pre-Procedure Consent, with keywords including "consent", "disciplinary", "action", "informed consent", and "surgical procedure". **Cluster 3 (Blue)**, also at 13.61%, highlights Medical Department Malpractice Issues, with notable terms like "anesthesia", "ICU", "endoscopy", and "diagnostic". **Cluster 4 (Yellow)** accounts for 12.43% and emphasizes Policy Control in Malpractice Matters, indicated by error. "clinical reasoning", "guideline", and "implementation". **Cluster 5 (Purple)** represents 10.65% and centers on Medical Malpractice and Overuse of Imaging in Emergency Settings, including keywords such as "breast imaging", "pediatric care", "ED physician", "hospitalization", "medico-legal", "imaging overuse", "patient harm", "radiologist stress", and "legal action". **Cluster 6 (Light Blue)**, with 8.88%, captures Maternity Malpractice Concerns, reflected in "cesarean delivery", "home birth", "woman", "labor", and "midwife". **Cluster 7 (Orange)** also occupies 8.88% and

relates to Compensation in Malpractice Matters, using terms such as “indemnity payment”, “payment”, “pay-out”, and “case”. **Cluster 8 (Chocolate)**, accounting for 5.32%, addresses Medical Negligence in Cardiac Surgery, represented by “cardiac surgery”, “medical negligence”, “injury”, and “risk factor”. **Cluster 9 (Pink)**, also 5.32%, focuses on Surgeon Job Satisfaction, indicated by “surgeon” and “job satisfaction”. The final group, **Cluster 10 (Light Pink)**, comprises 3.55% and pertains to Ethical Principles, with terms such as “autonomy”, “entrustment”, and “focus”. Given its low representation in the literature, this topic offers potential for further scholarly investigation.

DISCUSSION

Although malpractice in hospital settings has been widely investigated, it continues to occur across both developed and developing countries. This study found that trends in malpractice incidence within hospital environments can be accurately mapped using bibliometric analysis. Over the past five years, the most frequently discussed topics in malpractice literature, across both country groups, have been COVID-19, surgery, and injuries. The findings also indicate that the most prominent recent keywords associated with hospital malpractice were “patient satisfaction” and “patient safety” in both developing and developed countries. These areas merit closer examination. In addition, this study identified important research themes such as the consequences of malpractice, diagnostic errors, and their effects on pediatric treatment options in developing countries, as well as ethical standards in developed countries. Collectively, these themes provide a roadmap for future research.

Over recent decades, scholarly attention to medical malpractice, particularly within surgical fields, has increased significantly. Surgeons face more than twice as many malpractice claims as other specialists due to the higher risks of complications and medical errors inherent in surgical procedures (Mastalier et al., 2021). One high-risk outcome is complications, defined as events arising from illness or surgery that deviate from the intended clinical course and may lead to unanticipated adverse outcomes (Al-Rowwad & Al-Qawasmeh, 2024). Reports of surgical misconduct have emerged in both developed and developing countries. A case report from a developed country (Baldino et al., 2024), described a 28-year-old woman who underwent laparoscopic surgery for ovarian cyst removal and fibroid treatment but subsequently faced medico-legal complications. The study underscores the importance of informed consent, which must clearly outline the procedure, associated risks, and potential complications to anticipate malpractice claims (Baldino et al., 2024). Another retrospective study on hysteroscopy-related medical issues (Baez et al., 2025) found that uterine perforation was the leading cause of legal action (52.9%), followed by alleged technical errors (23.5%) and injury to adjacent structures (11.8%). Furthermore, a retrospective analysis conducted in Germany (Ahmadi et al., 2019) showed that medical errors were associated with surgical treatment in 40.7% of cases, surgical indication and preoperative assessment in 28.4%, postoperative care in 25.9%, and patient consent in 4.9%. In line with these results, the present study found that informed-consent-related concerns represented a major focus in malpractice discussions in developed countries.

Efforts to prevent malpractice through improved informed-consent procedures were also evident in developing countries. A cross-sectional study from South-Eastern Ethiopia (Negash et al., 2021) found that comprehensive consent forms, staff training, allocating more than 30 minutes for the consent process, strong knowledge, and positive attitudes were all significantly associated with good informed-consent practices, helping reduce malpractice, adverse patient outcomes, and legal claims. Another study by Kacem et al. (2020) suggested that music therapy can help prevent workplace-related health issues by significantly reducing emotional exhaustion and stress levels among surgical staff. This innovative approach may contribute indirectly to reducing malpractice risk by improving staff well-being (Kacem et al., 2020). To prevent negative outcomes associated with medical malpractice and improve the quality of care, particular attention must be paid to the consequences and patterns of malpractice in surgical settings. The competence of medical staff must be enhanced through continuous professional development and technical training (Lv et al., 2021), strengthened medical ethics, and heightened attention to patient safety and the risks inherent in medical procedures (La Sala & Caggiano, 2022). Physician credentialing has therefore been widely recognized as essential for identifying potential issues and taking appropriate action to mitigate adverse outcomes and minimize legal risk (Baez et al., 2025; Dun et al., 2024).

During the COVID-19 pandemic, malpractice became increasingly common in both developed and developing countries. The pandemic caused substantial disruptions to health systems, and in many cases, hospital and frontline healthcare workers were forced to make rapid, locally determined decisions that diverged from previously accepted standards of care (Setzen et al., 2020; Kelly, 2020; Shatnawi & Al-Latayfeh, 2021). In this context, several practices, sometimes bordering on malpractice, emerged as instinctive survival responses driven by fear of the coronavirus (Rafiq et al., 2022). The wide-ranging impact of the disease significantly affected medical-legal malpractice, diagnostic procedures, and treatment pathways. For instance, a study conducted in developed countries (Barranco et al., 2020) reported that oncologists faced a dilemma with potential legal consequences: balancing the need to treat cancer patients to ensure clinical benefits while simultaneously reducing their risk of exposure to COVID-19. Similarly, another study (Mastalier et al., 2022) found that delaying or prohibiting elective surgeries for non-complicated oncological

cases resulted in substantial losses in life years, missed cancer diagnoses, and even fatalities. Conversely, delayed presentation of patients with more complex or acute oncological conditions led to higher morbidity and mortality, the outcomes that could have been prevented through timely surgical intervention (Mastalier et al., 2022). In developing countries, the risk of hospital-related malpractice was widely recognized by healthcare professionals. A cross-sectional study among internal medicine physicians at the Tepecik Training and Research Hospital of the University of Health Sciences (Buran & Altın, 2021) showed that 58.2% of respondents expressed extreme concern about malpractice during the pandemic, 82.1% indicated a need for training in medicolegal issues, and 25.4% reported experiencing workplace violence. Another study by Sung et al. (2021) reported that among 1,795 respondents, 723 (40.3%) suffered from burnout, and 1,401 (78.1%) experienced significant anxiety. Consequently, healthcare professionals confronted considerable challenges in choosing appropriate treatment options for patients, while rising malpractice risks also affected their working conditions.

During the COVID-19 crisis, healthcare rationing became unavoidable and heavily dependent on bedside judgments that were error-prone, made under pressure, and laden with ethical dilemmas (Costa & Pinho, 2020). The condition of medical services, diagnostics, and therapeutic procedures may ultimately contribute to future medicolegal disputes and unexpected malpractice claims. The findings indicate that the focal points of malpractice research differ between developed and developing countries. Developed countries tended to examine malpractice issues related to diagnostic and therapeutic procedures, whereas developing countries focused on malpractice from the perspective of healthcare professionals working during the pandemic. Thus, from a bioethical and medicolegal perspective, the COVID-19 pandemic underscores the importance of balancing patient rights and professional responsibilities with public health regulations and legislative frameworks governing the prioritization of medical resources. Such a balance is essential to managing the pandemic effectively without disproportionately compromising individual health relative to collective welfare (Alexe et al., 2021).

Life-altering stressors such as medical errors, personal illnesses, malpractice lawsuits, and patient deaths are almost unavoidable for emergency physicians throughout their careers (Mull et al., 2019). Patients themselves often confront multiple challenges in accessing timely and convenient care (Asres et al., 2020). Prior research by Rawash et al. (2025) reported that the most frequently reported outcome in malpractice claims was deformity, followed by dissatisfaction with treatment results and prolonged therapy due to complications. Patient and staff surveys, and in more severe cases, the frequency and intensity of medical disputes, are commonly used to assess satisfaction with care (Wang et al., 2022). Consequently, patient satisfaction serves as a highly valuable indicator for evaluating health outcomes. It is essential for improving service quality, retaining patients, and reducing malpractice incidents (Asres et al., 2020). Patient satisfaction remains one of the major concerns in hospital services across both developed and developing countries. A study conducted in Israel (Semyonov-Tal, 2021) shows that patient complaints related to the facility's physical condition, food quality, cleanliness, caregiver attitudes, medical staff availability, staff communication, malpractice, and a lack of privacy and respect significantly affect overall patient satisfaction. Similarly, evidence from developing countries indicates comparable patterns. For instance, a survey of 510 hospitals in China (Wang et al., 2022) demonstrates that improved hospital management can reduce lawsuit-related expenses, decrease the risk of patient injury, and enhance staff and patient satisfaction, ultimately strengthening the patient-physician relationship. Furthermore, a cross-sectional study in Ethiopia by Asres et al. (2020) revealed that respect and confidentiality during physical examinations are positively associated with patient satisfaction. In this study, 48.2% of outpatient department patients reported being satisfied with the courtesy shown, a figure lower than the regional target. Understanding the nature and distribution of complaints is also crucial for improving patient satisfaction as well as pre- and postoperative communication and care (Ahmadi et al., 2019). Prior research consistently shows that complaints, particularly those related to interpersonal interactions, significantly affect patient satisfaction (Semyonov-Tal, 2021). In light of these findings, hospital management, policymakers, and relevant authorities should prioritize efforts to enhance patient satisfaction (Al-emu et al., 2025).

A more recent evaluation of hospitalization-related harm and malpractice is necessary because patient safety has evolved significantly over the years (Bates et al., 2023). Errors in medication administration have a substantial negative impact on patient safety and can lead to severe injury or death (Alotaibi, 2024). Medical errors are widely recognized as a serious threat to patient safety and a central concern in healthcare delivery, and patient safety itself remains one of the primary objectives of any health system (Farzi et al., 2022; Fan et al., 2021). In terms of quality of care and patient protection, missed or delayed diagnoses have also received considerable attention (Grenon et al., 2023). To safeguard patients and prevent malpractice, the relationship between healthcare providers and patients plays a critical role. A study conducted in a developed country (Thomas et al., 2023) using a cross-sectional design found that 41.4% of respondents believed patient safety had worsened over the previous five years, while 54.3% perceived existing safety measures as inadequate. Additionally, 18 of the 30 patients who experienced medical errors or negligence reported long-term or permanent physical and emotional consequences (Thomas et al., 2023). Another study by Bradfield et al. (2022) identified 96 medico-legal cases involving patients, consisting of 40 civil cases, 11 hospital complaints, and 45 professional-college complaints. Of these, 10 resulted in significant patient harm or death (Bradfield et

al., 2022). The most frequent complaints involved perceived poor evaluations (54%), diagnostic errors (53%), insufficient monitoring or follow-up (20%), and unprofessional behavior (20%) (Bradfield et al., 2022). Research from developing countries further indicates that extended work shifts, heavy workloads, and high patient volumes (83.3%), and physician fatigue (80.8%) became the primary risk factors for medical errors (Farzi et al., 2022). These issues also highlight medico-legal concerns related to informed consent, which may fail to clarify that a patient's declining condition or expected mortality does not necessarily constitute medical negligence or render physicians legally accountable (Baldino et al., 2024). Consequently, malpractice related to patient safety has become a major concern for hospital organizations.

Based on the findings, several recommendations emerge for improving patient safety and reducing malpractice. *First*, healthcare systems should proactively examine, understand, and address racial disparities in patient safety incidents, particularly those recorded in malpractice databases, to promote equitable and high-quality care (Thomas et al., 2023). *Second*, improving physician well-being and cultivating supportive work environments may reduce the likelihood of malpractice claims and enhance overall patient safety (Bradfield et al., 2022). *Third*, transparent communication channels must be strengthened to prevent errors (Alotaibi, 2024), leading to the establishment of specialized teams responsible for implementing local patient safety initiatives and sharing best practices across affiliated health systems (Kravet et al., 2019). *Lastly*, hospitals should enhance healthcare professionals' understanding of their legal responsibilities to ensure patient safety (Lim & Yi, 2021). Ultimately, collaboration among all stakeholders in the healthcare sector is indispensable to shifting the balance toward the principle of "First, Do No Harm" rather than accepting that "To Err is Human" (Moukalled & Elhaj, 2021).

CONCLUSION

The incidence of hospital-related malpractice remains a high-risk concern that continues to draw significant attention from healthcare organizations and patients in both developed and developing countries. Using bibliometric techniques, this study provides data-driven insights into the evolution of malpractice research in hospital settings, offering valuable guidance for researchers, policymakers, and medical practitioners. The analysis identified key research themes, including the effects of malpractice, diagnostic errors, and their impact on children, and ethical principles. In recent years, patient safety and patient satisfaction have emerged as central issues in hospital malpractice. To minimize errors, stronger collaboration and effective communication between patients and healthcare providers, particularly before and after surgical procedures, are essential. Hospitals must also strengthen their healthcare systems to support physician well-being and ensure high-quality patient care. Addressing these issues will help develop more effective strategies to prevent and reduce medical malpractice in hospital settings. Hence, it is recommended that future studies focus on the actions taken by hospital organizations and healthcare systems in response to medical malpractice within hospital environments.

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