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Global Trends and Thematic Evolution in Nursing Communication Skills Research: A Bibliometric Analysis of the Past 20 Years

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Abstract

Bibliometric characteristics of research on communication skills in nursing were analyzed via the Biblioshiny interface within the R programming language. The dataset comprised 27,217 studies indexed in the Web of Science between 2006 and 2026. Document counts, author contributions, and thematic clusters were analyzed to map the intellectual structure of the field. Results indicate a consistent upward trajectory in scientific production, peaking in 2025. The most frequent terms were communication, care, and nurses, which define the field's conceptual core, while the

prominence of palliative care and oncology suggests that research activity is concentrated in high-acuity clinical contexts. The United States and Australia led in corresponding author contributions; the prevalence of single-country publications points to limited international collaboration. The literature increasingly treats communication skills as a factor linked to clinical outcomes and patient safety rather than solely as a professional attribute.

Keywords: Nursing, communication skills, bibliometrics, patient safety, clinical competence

1. INTRODUCTION

The effectiveness and long-term sustainability of healthcare services depend substantially on the professional knowledge, clinical skills, and interpersonal competencies of the workforce delivering those services. Nursing constitutes one of the largest professional groups within healthcare systems, with sustained and direct interactions with patients and families. Nurses consequently have a central role in protecting, promoting, restoring, and improving individual and population health [1, 2]. Nurses contribute to patient care not only through clinical assessment and interventions but also through multidimensional responsibilities, including emotional support, information provision, patient education, and guidance [3, 4]. This multifaceted professional responsibility demonstrates that effective nursing practice requires both technical expertise and strong interpersonal and communication competencies [5].

Communication is a fundamental component of nursing practice and is among the principal factors influencing the quality of relationships established with patients and their families [6, 7]. Effective communication enables nurses to identify and assess patient needs more accurately, develop care plans that reflect patient-centered principles, and encourage active patient participation in treatment decisions and ongoing care [7, 8]. Beyond the nurse–patient relationship, communication supports interprofessional collaboration, improves the exchange of essential clinical information, and contributes to safer and more coordinated clinical decision-making [9, 10]. Accordingly, nursing communication skills are widely recognized as an essential domain of professional competence with important implications for care quality and continuity [11].

Effective communication in nursing is relevant both to individual patient experiences and to the organization and performance of healthcare services as a whole [12]. Previous research has associated effective nursing communication with improved patient experiences, greater satisfaction, more supportive care relationships, and a stronger patient-safety culture; the strength and direction of these relationships depend on the particular research design and outcomes evaluated [13]. In clinical settings where emotional distress, uncertainty, and ethical decisions are prominent, including palliative care, oncology, intensive care, and chronic disease management, communication assumes particular importance in the care process and shapes nurses' professional responsibilities [14, 15]. Within these settings, communication skills reinforce the humanistic dimension of nursing and support a holistic approach that acknowledges patients' physical, psychological, and social needs [16].

The growing academic interest in nursing communication skills indicates increasing scholarly attention to their relevance for clinical practice, professional development, and nursing education [17, 18]. However, despite the increasing volume of publications, a comprehensive examination is still needed to identify dominant research themes, leading journals and institutions, patterns of national contributions, and the development of the field over time [19–21]. Bibliometric analysis offers a systematic approach for examining the publication structure, development patterns, citation impact, collaboration characteristics, and thematic priorities of scholarship on nursing communication skills [22].

The present study examines the scientific literature associated with nursing communication skills using bibliometric methods. Its purpose is to describe the field's publication history, identify prominent journals and institutional contributors, investigate geographical patterns, and map frequently occurring research themes. The findings are intended to support a more informed understanding of current publication trends while identifying questions that warrant additional investigation. The study thereby contributes a structured descriptive perspective on communication as an important component of nursing practice and education. The research questions (RQs) are organized into two complementary categories, namely performance analysis and science mapping:

RQ1. Which journals and institutions account for the largest numbers of publications? RQ2. How has annual publication output changed over time? RQ3. How is scientific production distributed across countries? RQ4. Which documents have accumulated the highest citation counts within the retrieved dataset?

RQ5. Which keywords occur most frequently in the retrieved records? RQ6. How are the principal research themes distributed within the bibliometric thematic map?

2. METHOD

The bibliographic screening process was summarized using a PRISMA-style flow diagram to make the successive database filters transparent. Literature relevant to nursing communication skills was retrieved from the Web of Science (WoS) Core Collection on 29 January 2026. The precise database query and all search-field settings must be retained in the research record to enable independent replication. WoS was selected because its structured bibliographic and citation metadata support cross-disciplinary publication analysis and bibliometric mapping [22–24]. The initial query yielded 56,943 records. The publication-year filter covered 2006 through 2026, inclusive, with 2026 representing an incomplete year at the January retrieval date; this restriction reduced the corpus to 53,530 documents. Subsequent database filters were applied to narrow the retrieved material. The WoS subject categories were restricted to Nursing; Health Care Sciences and Services; Public, Environmental and Occupational Health; and Medicine, General and Internal, leaving 33,115 documents. Category filtering does not, by itself, establish that every retained document primarily investigates nurses' communication

skills. The document-type filter was restricted to articles, reducing the dataset to 27,942 records. Conference proceedings and review articles were consequently outside the selected document type, although this restriction should not be interpreted as an independent duplicate-removal procedure. A final English-language filter yielded a dataset of 27,217 articles. The sequence of restrictions and the reported record totals are shown in Figure 1. Because the full search expression and a record-level relevance audit were not supplied with this manuscript, these counts should be interpreted as the reported WoS retrieval results pending replication against the original export.

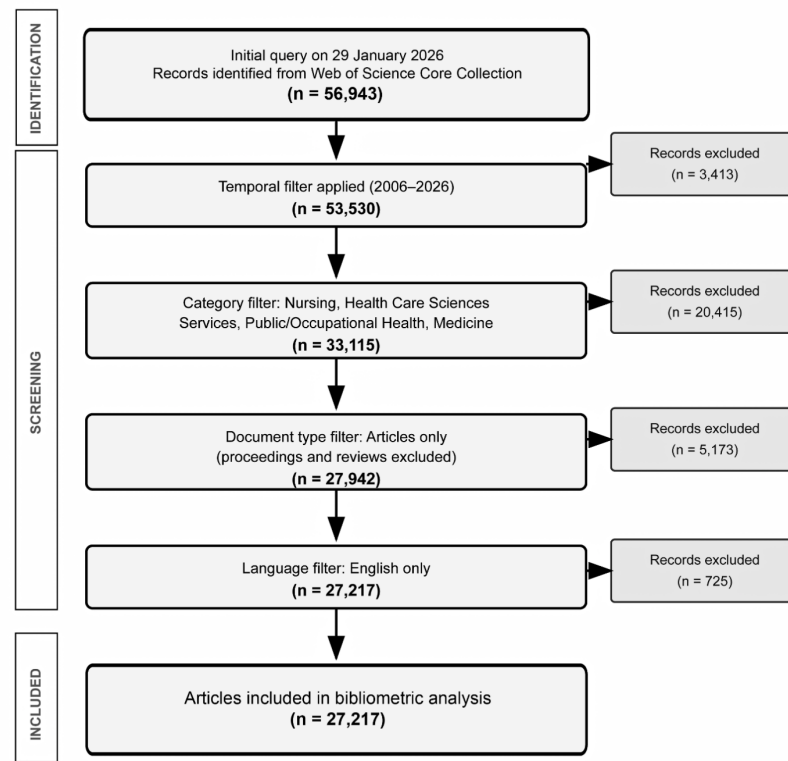


Figure 1. PRISMA flow diagram

Bibliometric mapping was used to examine relationships among publications, authors, terms, and other indexed attributes of the retrieved records. Network-analysis approaches can identify prominent entities and describe the structure of connections within a defined bibliographic dataset [25]. The study combined descriptive and evaluative bibliometric approaches [26]. Descriptive indicators summarized publication volumes, author and institutional contributions, and changes over time; evaluative and mapping indicators were used to assess citation patterns, keyword co-occurrence, and relationships among research themes. The exported data were imported into the R environment and processed using the bibliometrix package. Visualizations were generated through Biblioshiny, its interactive web interface for bibliometric exploration and science mapping [27]. Together, these tools facilitated the calculation of publication indicators and visualization of the conceptual structures represented in the retrieved nursing-related bibliographic records.

3. RESULTS

The following results describe the bibliometric characteristics of the retrieved literature associated with nursing communication skills from 2006 through January 2026. The analysis encompasses publication volume, author participation, institutional representation, citation impact, and indexed research themes. These measures describe patterns within the selected database records rather than independently establishing the clinical relevance of each included article. Table 1 summarizes the foundational metrics of the dataset. The reported selection procedure retained 27,217 articles for analysis across the specified publication-year range. These records included 108,352 authors, while 1,378 documents were classified as single-authored. This distribution indicates that multi-author contributions predominate within the retrieved dataset. The dataset contained 31,585 unique indexed keywords, illustrating the breadth of subjects and terminology represented in the bibliographic records.

Table 2 presents the leading journals and institutional affiliations represented in the selected dataset for publications dated 2006–2026. In terms of journal productivity, the Journal of Clinical Nursing occupied the primary position, accounting for 737 manuscripts. This total exceeded those of the Journal of Advanced Nursing (562 publications) and BMC Health Services Research (561 publications), indicating a clear difference in recorded publication volumes across

venues. BMC Nursing and BMJ Open completed the top five list with 523 and 501 articles, respectively. Institutional contribution analysis revealed a predominance of North American universities. The University of Washington led the field with a total of 1,088 publications. The University of Michigan followed with 990 studies. The University of Toronto ranked third, contributing 885 publications, while the University of California, San Francisco (878) and the University of Pennsylvania (857) secured the fourth and fifth positions. These figures indicate a concentration of recorded institutional affiliations among a relatively small group of large academic institutions within this export.

Table 1. *Summary characteristics of the retrieved bibliometric dataset*

Scopes	Results
Timespan	2006–2026
Documents	27,217
Authors	108,352
Authors of single-authored documents	1,378
Keywords	31,585

Table 2. *Five leading journals and institutions in the retrieved bibliographic dataset (2006–2026)*

Journal	n	Institution	n
Journal of Clinical Nursing	737	University of Washington	1,088
Journal of Advanced Nursing	562	University of Michigan	990
BMC Health Services Research	561	University of Toronto	885
BMC Nursing	523	UCSF	878
BMJ Open	501	University of Pennsylvania	857

Note. *n* = number of publications; UCSF = University of California, San Francisco.

Figure 2 illustrates the reported annual distribution of publications across the selected time interval. The plotted counts show an overall upward pattern of publication activity, which is consistent with growing attention to the topics represented in the retrieved literature. The graph itself, however, does not establish that all records address nursing communication skills as their principal subject.

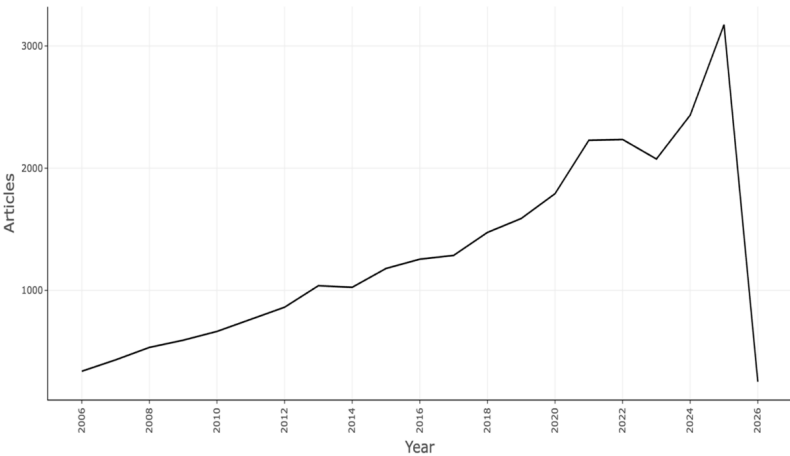
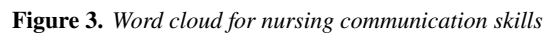


Figure 2. *Annual scientific production*

Annual output generally increased from 2006 through 2019, as illustrated in Figure 2. This descriptive pattern demonstrates growth in indexed publication volume; it cannot, on its own, establish changes in clinical curricula or professional practice. A more pronounced increase was recorded between 2020 and 2022, coinciding with a period of substantial global attention to healthcare delivery and communication challenges. The reported series shows a temporary reduction in 2023, followed by renewed growth in subsequent years. Publication output reportedly reached its highest observed value in 2025, with more than 3,000 records. This peak applies to the retrieved dataset and is not an independent measure of global nursing research activity. The lower 2026 count reflects the fact that the database was searched on 29 January 2026, before the end of that publication year, and must not be interpreted as an actual contraction in annual scholarly activity.



Horizontal stacked bar chart showing the number of documents (N. of Documents) for various countries, categorized by collaboration type (MCP and SCP).

The Y-axis lists the countries: USA, AUSTRALIA, CHINA, UNITED KINGDOM, CANADA, SWEDEN, IRAN, KOREA, NORWAY, NETHERLANDS, SPAIN, BRAZIL, JAPAN, IRELAND, DENMARK, GERMANY, TURKEY, ITALY, SOUTH AFRICA, and SAUDI ARABIA.

The X-axis represents the N. of Documents, ranging from 0 to 10,000.

Legend: Collaboration (MCP - Red, SCP - Teal).

Country	MCP (Red)	SCP (Teal)	Total (Approx.)
USA	~1,000	~9,000	~10,000
AUSTRALIA	~500	~2,000	~2,500
CHINA	~500	~1,500	~2,000
UNITED KINGDOM	~500	~1,500	~2,000
CANADA	~500	~1,500	~2,000
SWEDEN	~200	~1,000	~1,200
IRAN	~100	~800	~900
KOREA	~100	~800	~900
NORWAY	~100	~800	~900
NETHERLANDS	~100	~800	~900
SPAIN	~100	~800	~900
BRAZIL	~100	~800	~900
JAPAN	~100	~800	~900
IRELAND	~100	~800	~900
DENMARK	~100	~800	~900
GERMANY	~100	~800	~900
TURKEY	~100	~800	~900
ITALY	~100	~800	~900
SOUTH AFRICA	~100	~800	~900
SAUDI ARABIA	~100	~800	~900

Figure 4 shows the geographical distribution of corresponding-author contributions and distinguishes single-country publications (SCP) from multiple-country publications (MCP). According to the exported counts, the United States contributes the largest volume of corresponding-author publications, including both domestic and internationally co-authored records. This output is followed by Australia, China, the United Kingdom, and Canada. SCP outnumber MCP among the leading countries shown, indicating that domestic affiliations predominate in the selected corresponding-author dataset. The displayed comparison suggests a particularly high proportion of SCP among the records attributed to Türkiye. This pattern describes co-authorship affiliations and should not be equated with a lack of international scientific influence or exchange. Among other countries displayed, including Italy, South Africa, and Saudi Arabia, domestic contributions also appear more common than internationally co-authored publications. The relevant proportions should be interpreted

together with each country’s total publication volume.

Figure 5 maps the thematic structure of the dataset using Callon’s centrality, which represents relationships with other themes, and density, which represents the internal development of thematic clusters. The resulting quadrants differentiate themes by their relative connectivity and internal cohesion within the bibliometric network. The upper-right quadrant (Motor Themes) contains the cluster defined by communication, care, and nurses. The relatively high centrality and density of this cluster identify it as highly interconnected and internally developed within the analyzed network. Broad nursing-care terminology is therefore prominent in the map, although it is not possible to infer the direction of research influence or clinical importance solely from thematic coordinates.

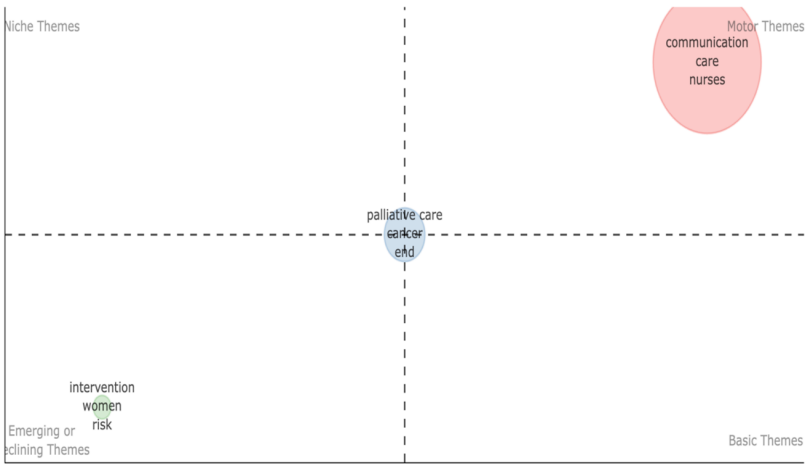


Figure 5. Diagram of the conceptual structure: A thematic map of research clusters based on centrality (relevance) and density (development)

The cluster labeled palliative care, cancer, and end (referring to end-of-life contexts) is positioned near the origin of the thematic axes in Figure 5. This location indicates an intermediate or transitional thematic position in the mapped network; it does not establish that oncology and palliative settings account for the greatest number of direct tests of communication interventions. By contrast, intervention, women, and risk appear in the lower-left quadrant, where low centrality and density may characterize emerging, peripheral, or declining topics. Distinguishing among these interpretations requires longitudinal thematic evidence.

Table 3 lists the five documents with the highest citation impact within the dataset. Citation counts are database- and retrieval-date-dependent, and the thematic relevance of these entries must be considered separately from their citation rank. Haynes et al. [28] has the highest reported citation total in the selected dataset (3,125 citations). Its surgical safety checklist is relevant to multidisciplinary safety and communication, but its inclusion does not establish that the article primarily investigates nursing communication skills. The checklist represents a structured, team-based approach to reducing errors in high-stakes clinical settings and can provide contextual evidence concerning information exchange. Coleman et al. [29] addresses clinical standards for gender-diverse populations and illustrates the breadth of health-related topics represented in the retrieved citation list. Lin et al. [30] examines hearing loss and cognitive decline. The presence of this and other cross-disciplinary articles highlights the need to verify the specificity of the database search and inclusion criteria.

Table 3. Five most-cited documents within the retrieved bibliographic dataset

Study	Title	Total Citations	DOI
Haynes et al. [28]	A surgical safety checklist to reduce morbidity and mortality in a global population	3,125	10.1056/NEJMsa0810119
Inker et al. [31]	New creatinine and cystatin C-based equations to estimate GFR without race	3,029	10.1056/NEJMoa2102953
Coleman et al. [29]	Standards of care for the health of transgender and gender diverse people	1,392	10.1080/26895269.2022.2100644
Liu et al. [32]	Ambient particulate air pollution and daily mortality in 652 cities	1,290	10.1056/NEJMoa1817364
Lin et al. [30]	Hearing loss and cognitive decline in older adults	1,281	10.1001/jamainternmed.2013.1868

4. DISCUSSION

The retrieved records reveal a hierarchy of publication venues contributing to the selected nursing-related communication dataset. The Journal of Clinical Nursing occupies the primary position (n = 737), followed by the Journal of Advanced Nursing (n = 562), BMC Health Services Research (n = 561), BMC Nursing (n = 523), and BMJ Open (n = 501). Examination of these leading journals reveals a broad framework that positions communication skills as a central, rather than peripheral, component of nursing care. These outlets publish substantial research on nursing, clinical practice, service delivery, and care quality, although their journal-level publication totals should not be interpreted as direct evidence of specialized editorial policies or uniform journal impact [6, 16]. Their representation may also reflect the breadth of their scopes, their indexing coverage, and their capacity to publish interdisciplinary healthcare studies. Publication speed

and access models were not assessed by the current bibliometric analysis. Consequently, the prominence of these journals should be understood as a characteristic of the retrieved publication set rather than conclusive evidence about each journal's specific emphasis on communication skills.

Bibliometric analysis of institutional productivity identifies the University of Washington as the leading producer ($n = 1,088$). The University of Michigan ranks second ($n = 990$), followed by the University of Toronto ($n = 885$), the University of California, San Francisco ($n = 878$), and the University of Pennsylvania ($n = 857$). The prominence of these institutions may reflect the scale of their healthcare research programs, publication output, and institutional affiliation networks [1]. Large universities and associated academic medical centers may support research across patient-centered care, empathy, professional communication, and patient safety. Nevertheless, the present data do not separately quantify institutional investments or nursing-school-specific contributions [3, 13]. Institutional scale, access to clinical populations, and interdisciplinary research networks may help explain publication volume, but these potential mechanisms were not tested directly in this study. Such environments can provide opportunities for examining communication practices across diverse clinical contexts [9]. Other potential influences include research funding, international collaborations, indexing practices, and institutional publication incentives; these possible explanations would require independent comparative evidence. Accordingly, the institutional ranking demonstrates concentrations of publications within the retrieved dataset, but does not by itself establish which institutions exert the strongest causal influence on healthcare quality.

Analysis of scientific productivity regarding nursing communication skills reveals a robust upward trajectory over the historical period between 2006 and 2026. The reported data indicate overall growth in publication volume, a temporary reduction in 2023, and a peak in the observed annual counts in 2025. This longitudinal growth suggests the field has solidified as a primary focus of academic interest; a development likely associated with the systemic strengthening of patient-centered care approaches [7]. Furthermore, the trend reflects the increasingly visible role of communication as a determinant of care quality and patient safety [10, 13], alongside its acceptance as a fundamental competency domain within nursing education curricula [17]. The reasons for the decline observed in 2023 cannot be determined from annual bibliometric counts alone. Possible influences include changes in indexing, the original search strategy, the timing of publication, and wider research priorities; each would need separate investigation. The subsequent rise through 2025 indicates renewed growth in the number of indexed records that matched the selected search and database filters. These findings position communication skills as a strategic research area within the contexts of clinical practice, pedagogical innovation, and health service quality. Therefore, the historical pattern is consistent with continuing scholarly interest in healthcare communication, although future publication growth cannot be predicted reliably from this descriptive series alone.

Information derived from the word cloud analysis identifies communication, care, nurses, health, and nursing as the most frequently employed terms. These findings delineate the conceptual framework and priority foci of the field. The predominance of communication is attributable to its recognition as a fundamental professional competency; and thus, it acts as an inseparable component of care processes [5, 6]. Together, these frequent keywords characterize the vocabulary of the dataset, while the accompanying thematic groups provide a starting point for more detailed analysis of specific research subfields. Terms such as palliative care and cancer suggest that high-acuity clinical contexts are represented, although quantitative conclusions about the proportion of directly relevant articles require additional topic-level screening [14, 15]. The visibility of terms such as education, simulation, and qualitative research suggests a strong pedagogical focus regarding the training methods used to acquire these skills [17]. The presence of patient safety, barriers, and satisfaction connects the indexed terminology with care-quality concerns but cannot, without study-level evidence, establish communication as a measured determinant of patient outcomes [10, 13]. The mapped vocabulary consequently illustrates connections among nursing practice, communication-related constructs, education, and a range of healthcare conditions.

Global contribution analysis identifies the United States as the leading producer of corresponding authors, followed by Australia, China, the United Kingdom, and Canada, which may reflect differences in institutional capacity, bibliographic coverage, and the location of corresponding authors within international research networks. Both the United States and Australia contain extensive academic healthcare research systems, but the present bibliometric rankings do not directly measure national investment levels or the funding of communication-specific projects [20]. The visibility of China, the United Kingdom, and Canada may relate to their broader healthcare research output and collaboration structures. Evidence from an ophthalmology-specific bibliometric study cannot independently explain the national distribution of nursing communication research [23]. Such contextual explanations remain hypotheses rather than established findings of the corresponding-author comparison presented here.

The thematic map showed communication, care, and nurses as the field's motor themes. This classification indicates that these terms form an interconnected, internally developed cluster in the mapped keyword network, although the map does not quantify their clinical importance. Classification of these concepts as motor themes reflects their foundational status; they provide the broad theoretical context in which specific interventions are tested. Conversely, the positioning of palliative care, cancer, and end at the geometric center of the map highlights the specific clinical engines driving this

output. Communication competence is particularly relevant in high-stakes and emotionally demanding care environments [14]; and thus, these contexts represent important settings in which communication-related theories and interventions may be examined. The diversity of clinical and educational themes also supports the value of future research that systematically compares methods, settings, and communication outcomes.

Analysis of the most cited documents identified A surgical safety checklist to reduce morbidity and mortality in a global population [28] and New creatinine and cystatin C-based equations to estimate GFR without race [31] as the leading contributions in the dataset. The list also includes Standards of care for the health of transgender and gender diverse people [29], Ambient particulate air pollution and daily mortality [32], and Hearing loss and cognitive decline in older adults [30]. These widely cited works span topics that are broader than nursing communication, including kidney-function estimation, air pollution, hearing loss, clinical safety, and inclusive standards of care. Their presence should be reported transparently, because a broad bibliographic query can capture highly cited health studies without establishing their direct relevance to nursing communication skills. For instance, the surgical checklist functions as a standardized communication protocol designed to mitigate error and enhance team coordination [28]. Likewise, the establishment of care standards for gender-diverse individuals necessitates the development of inclusive, patient-centered communication frameworks to ensure health equity [29]. It would therefore be inappropriate to conclude from this citation ranking alone that nursing communication research specifically prioritizes all of these subjects. The ranking instead raises an important methodological question: whether the scope of the WoS search and the category filters were sufficiently specific for the stated research objective. A record-level relevance check would strengthen subsequent interpretations.

5. CONCLUSION

Analysis of the reported 27,217 Web of Science records dated from 2006 through January 2026 indicates overall growth in publication volume within the selected nursing-related communication dataset. This conclusion is conditional on the original search and inclusion criteria, which require reproducible documentation. The frequent association of communication skills with high-sensitivity contexts, including clinical care, patient safety, palliative care, and oncology, indicates that this topic is commonly linked to discussions of care quality in the literature. The concentration of institutional and corresponding-author affiliations within several major research systems may reflect differences in academic infrastructure and bibliographic coverage, although these mechanisms were not directly tested. Bibliometric indicators also point to communication skills occupying a central conceptual position in the field, with recurrent connections to clinical decision-making themes; however, the appearance of highly cited articles from unrelated healthcare subfields indicates that the topical specificity of the source dataset needs to be examined before drawing strong conclusions about the intellectual core of nursing communication research. Taken together, these findings point to a consolidation of the field within nursing scholarship and suggest the likelihood of continued research interest, while not implying causal or evaluative conclusions beyond the scope of bibliometric analysis.

Bibliometric findings suggest several potential directions for future inquiry. Expanding the use of experimental and mixed-method designs offers an opportunity to strengthen the evidence base regarding communication efficacy across diverse clinical settings. High-acuity domains, including palliative care, oncology, and intensive care, merit focused study to clarify communication needs and their relationships with measurable patient outcomes. The existing word-cloud analysis alone does not establish whether these domains are underrepresented in publication volume. Pedagogical research could also assess how communication skills are integrated into curricula and whether education-based interventions will yield measurable effects. The predominance of single-country publications in the reported corresponding-author results suggests opportunities for multinational research collaborations, subject to verification of country-level proportions and the original export. Periodic replication of bibliometric analyses using alternative databases would broaden understanding of the field's structural evolution.

Our data retrieval was restricted to the Web of Science Core Collection, so publications indexed exclusively in Scopus, PubMed, or regional repositories were not captured. Another limitation was the linguistic filter: only English-language manuscripts were analyzed, which most probably underestimated contributions from other regions and may partially account for the lower international collaboration rates observed in certain countries. Also, citation counts reflect academic impact rather than scientific quality; highly cited works may indicate utility, broad applicability, or controversy rather than methodological rigor. Finally, the 2026 data represent only the period available by the 29 January 2026 retrieval date; the annual publication figures are incomplete and will require updating as additional records become available.

Author contributions

All authors contributed equally to the preparation and revision of the manuscript, according to the submitted authorship declaration.

Conflict of interests

The authors declare that they have no conflicts of interest related to this study.

Data availability

The analysis used bibliographic metadata retrieved from the Web of Science Core Collection on 29 January 2026. Access to the underlying source records is subject to the database provider's licensing and subscription conditions. Aggregated findings are presented in the manuscript's tables and figures. Reproduction of the record-level analysis requires the original search expression and bibliographic export, which should be retained by the authors in accordance with the database's permitted-use conditions.

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