

The Promise of Artificial Intelligence to Aid in Systematic Reviews: An Examination of Scopus AI

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Abstract

Systematic reviews are a critical tool in oncology practice to facilitate informed clinical decision-making, synthesize current research, and guide practice policy. To facilitate early exploration of a literature query or topic, Scopus Artificial Intelligence (AI), which was introduced in 2024 and is subscription-based, provides a new tool for researchers and providers to access current data or begin a systematic review topic exploration. The following article is intended to familiarize advanced practice providers (APPs) with both the recently released AI tool of Scopus AI and associated AI interface capabilities with literature search methodologies. Scopus AI is embedded within the extensive resources of Scopus, an established search engine database. Scopus AI simplifies a topic search by allowing a user to enter the question or phrase in natural language, or ordinary spoken or written language. It then translates the query into a vector and/or keyword search. Scopus AI summarizes the output results to include bullet points, numbered highlights, and conclusions. Associated citations, with internal URL links to articles embedded within the Scopus database, allow for confidence in the output summary. Pivotal or landmark study foundational document citations are also listed. The utilization of AI tools can aid APP researchers and clinicians to expedite steps in the systematic review process. Multiple tools are available to assist the researcher; Scopus AI is one of the tools that can be used to assist in streamlining specific aspects such as the initial tasks and literature search steps of the systematic review development process.

Systematic reviews are a critical tool in the clinical practice of advanced practice providers (APPs), facilitating informed decision-making, synthesizing research, and guiding practice policy (Weed, 2018). An evidence-based, systematic review of current research, specific to a practice question, provides guidance on best practices from current, peer-reviewed literature (Burns et al., 2024).

The number of systematic reviews in oncology has increased significantly in the past 20 years. To illustrate the increase, the authors conducted a search in PubMed on April 3, 2025, using the term “cancer” and limiting the search to systematic reviews with or without meta-analysis and human species. Systematic reviews published from 2020 to 2024 yielded 44% ($n = 31,213$) of the total systematic reviews published related to cancer since 1995 (Figure 1). The volume of information published has also increased exponentially over the past 20 years. This represents a large volume of

datasets to organize and review when performing a literature search, making the traditional method to synthesize current research and data complex and challenging.

Providing a rigorous, high-quality systematic review is also time intensive. A robust literature search contains multiple, sequential steps and processes to ensure all the evidence is synthesized and presented without bias (van dijk et al., 2023; Burns et al., 2024). The benefits of integrating artificial intelligence (AI) to optimize the methodology of systematic reviews using complex, large datasets are evident. Artificial intelligence can optimize the process of exploring large bibliographic databases and potentially streamline the development of an evidence-based review (Burns et al., 2024; Bolaños et al., 2024). The UK’s National Institute for Health and Care Excellence (NICE) position statement on use of AI evidence synthesis states in part: “AI methods can efficiently process and analyze large datasets to reveal patterns...not

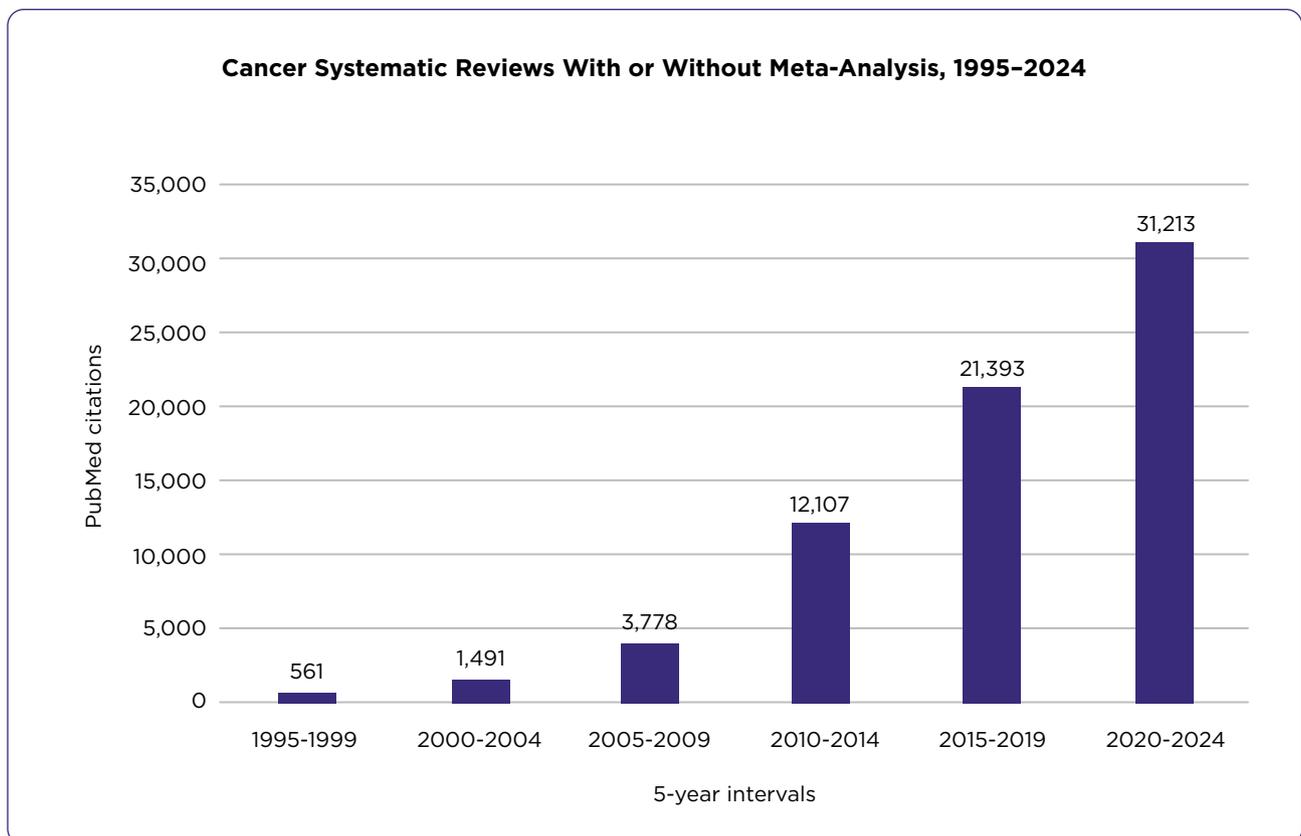


Figure 1. Results of PubMed search for systematic reviews, with or without meta-analysis, related to cancer from 1995-2024.

readily apparent to human analysts. Generative AI can create novel outputs based upon what it learns from data. However, concerns about the appropriateness, transparency and trustworthiness of AI do exist. It's important to consider the use of AI methods carefully to ensure the anticipated benefits are balanced against the known concerns... guidance is needed on how to present evidence that has been informed by AI methods" (National Institute for Health and Care Excellence [NICE], 2024). Numerous AI tools recently released with utility and functionality as the focus can integrate AI use into systematic review development.

This article is intended to familiarize APPs with both a recently released AI tool, Scopus AI, and the associated AI interface capabilities with literature search methodologies. Exploration of AI tools to streamline the systematic review process has been ongoing for several years (Fabiano, 2024). A recent analysis by Burns et al. (2024) compared human evaluators to DistillerSR AI, an AI literature review software tool. The case study compared the accuracy and sensitivity of selecting appropriate articles for first-phase inclusion/exclusion of randomized controlled trials for a systematic review between the human evaluators and DistillerSR AI. The results demonstrated that DistillerSR AI article selections were comparable to human reviewers (Burns et al., 2024). Bolaños et al. (2024) provided an extensive review of 11 AI systems enabled to retrieve relevant information from a knowledge base or a document collection. A database search engine then provides a list of related research papers and their summaries based on natural language queries rather than searching with specific keywords. Subsequent advancements have focused on embedding AI within a search engine database and demonstrate how rapidly AI is becoming integrated into systems as a tool for clinicians (Ge et al., 2024).

Given the increase in oncology systematic reviews and the promising results of AI streamlining the search process, this article is intended to highlight Scopus AI as one available tool to aid in clinical decision-making and literature searches. This information provides newly accessible tools to augment both clinical practice and research for APPs in oncology.

SCOPUS AI

Scopus, an Elsevier product, is an extensive abstract and citation database search engine of multidisciplinary peer-reviewed publications that assists clinicians and researchers in finding high-quality, relevant data. Updated daily, Scopus has existed since 2004 and is widely used as a database search engine for comprehensive, multidisciplinary peer-reviewed journals. "The Scopus database covers more than 28,900 peer-reviewed journals and 330,000 books from over 7,000 scholarly publishers, as well as 25.1 million open access (OA) items and records from MEDLINE and EMBASE" (Elsevier, 2025).

Scopus AI was introduced in 2024 and is a subscription-based AI tool to aid with facilitating early exploration of a literature query or topic within the extensive resources of Scopus. Users of Scopus AI enter the question or phrase in natural language, and Scopus AI translates the query into a vector and/or keyword search while incorporating the standard Boolean operators of AND/OR. Scopus AI uses a Boolean logic approach to determine whether to include a resource in search results. A formatted PICO (Population, Intervention, Comparison, Outcome) question is valuable but not required when using Scopus AI. Figure 2 demonstrates a natural language question and the steps Scopus AI provides in response. Copilot, an accessory to Scopus AI, is a drop-down option that lists the steps employed to produce the search results associated with the question. It also produces the associated search string or key terms users may utilize as a starting point for a more extensive search of other databases such as MEDLINE or EBSCO.

Scopus AI summarizes the output results to include bullet points, numbered highlights, and conclusions. The associated citations, with internal URL links to the article entries in Scopus, allow for confidence and the basis for summary conclusions. Pivotal or landmark study citations are listed in addition to related citations. Identification of subject matter authors most prominently related to the subject query is another feature output, in addition to an AI summary of limitations and research directions for future consideration. Confidence in the data produced from Scopus AI is based on AI drawing from the vetted source

Does exercise improve quality of life in patients receiving chemotherapy?**HIDE COPILOT STEPS** ^

- Creating a plan to answer your query**
- Performing natural language search:**
 - How does exercise impact the quality of life in patients undergoing chemotherapy?
- Performing keyword search:**
 - (“exercise” OR “physical activity” OR “fitness” OR “workout”) AND (“quality of life” OR “well-being” OR “life satisfaction” OR “health status”) AND (“chemotherapy” OR “cancer treatment” OR “oncology” OR “cancer therapy”) AND (“patients” OR “individuals” OR “survivors” OR “participants”)
- Generating summary**

SUMMARY**Does Exercise Improve Quality of Life in Patients Receiving Chemotherapy?****Summary:**

Exercise has been shown to significantly improve the quality of life (QoL) in patients undergoing chemotherapy. Multiple studies have demonstrated various benefits of exercise interventions during chemotherapy, including improvements in physical and mental health, reduction in treatment-related symptoms, and enhanced overall well-being.

Key Findings:

Quality of Life Improvements:

- Exercise interventions, including aerobic and resistance training, have been associated with...

Ask a follow-up question

References

Reference 1

Exercise During Chemotherapy for Cancer: A Systematic Review
Walker R.G., Pezeshki P., Barman S., (...), Davies A.R.
Journal of Surgical Oncology ^ 2024

Reference 2

The influence of moderate intensity exercises on fatigue and quality of life in cancer patients undergoing chemotherapy
Tejani N., Anandh S.
Indian Journal of Public Health Research and Development ^ 2019

Reference 3

A systematic review of the safety and efficacy of aerobic exercise during cytotoxic chemotherapy treatment
Cave J., Pascholis A., Huang, C.Y., (...), Grocott M.P.W.
Supportive Care in Cancer ^ 2018

Figure 2. Copilot results using Scopus AI to identify keywords.

within Scopus, which may include citations for this process.

Copilot: Identification of Key Terms

Novice researchers may benefit from Scopus AI through the identification of key terms or a search string based on the natural language query. Scopus AI can be used as a tool to identify foundational, relevant, and related articles for the topic under exploration (Figure 2). Scopus AI is embedded into the Scopus database search engine, casting a wide net to retrieve relevant citations. However, AI does not replace a traditional literature search and is best used as a starting point for the systematic review process and for identifying benchmark articles to guide clinical practice. Articles that meet the inclusion criteria can also be mined to inform more comprehensive subsequent search strategies.

Concept Map

Another feature of Scopus AI is the generation of a concept map, which includes a graphic display of relationships between key concepts used in the abstract search (Figure 3). Access to specific relationships depicted on the concept map reveals detailed information on the interconnectedness between concepts and themes in relation to the original query.

FUTURE RESEARCH/HYPOTHESES

Emerging themes are summarized in the output summary and are useful in providing potentially novel or future hypotheses that may elicit a new search direction. This feature lists relevant or emerging themes related to the literature summaries. “Go deeper” questions are an additional aspect of the output summary providing a route to explore the search topic in greater detail. Scopus

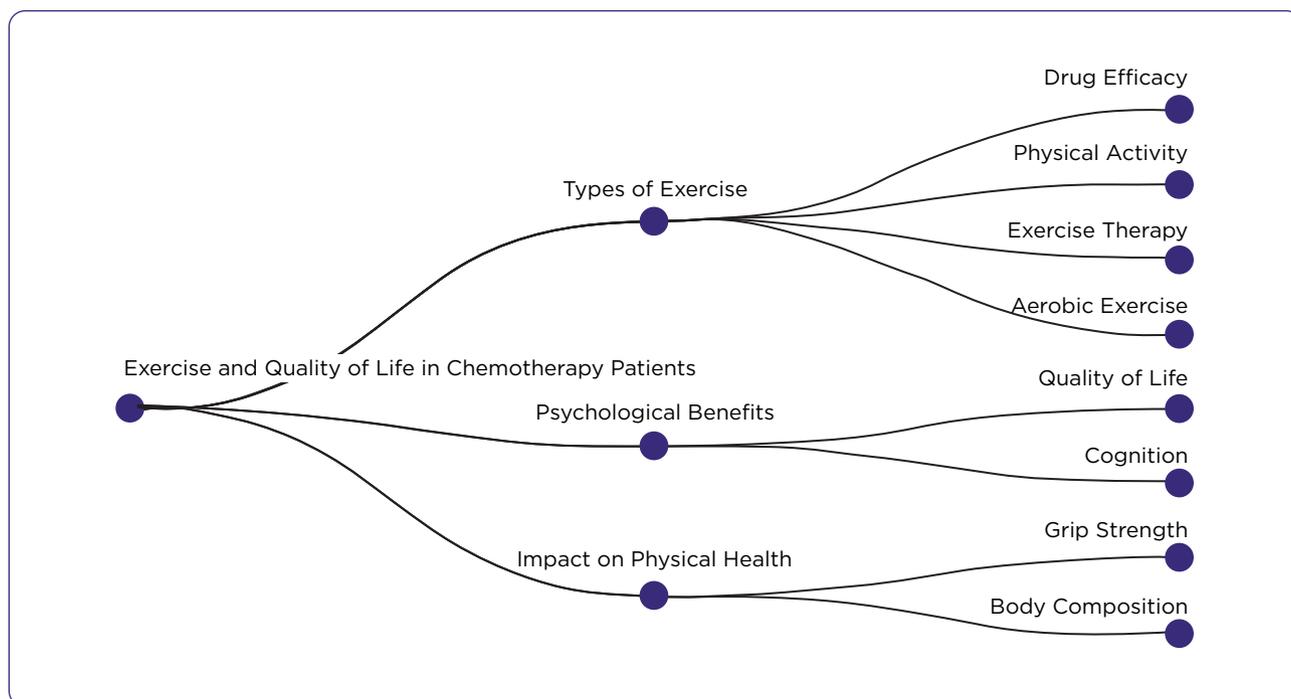


Figure 3. Concept map generated by Scopus AI search: Does exercise improve quality of life in patients receiving chemotherapy?

AI provided the following questions for the query: “What types of exercise are most beneficial for patients undergoing chemotherapy?” “How does regular exercise impact the mental well-being of individuals undergoing chemotherapy?” and “What are the potential risks of exercising during chemotherapy treatment?”

The original search query remains if the user launches a “go deeper” question with a follow-up question box at the bottom of the generated content. However, if the user launches a new conversation, Scopus AI does not retain the initial query. A new search is processed for the query and the previous search results are not retained.

An additional feature added to Scopus AI in August 2025 is a toggle bar on the home search page for “deep research.” This feature targets researchers to provide a more detailed report when submitting detailed questions specific to the research topic. This recent addition to Scopus AI demonstrates how rapidly AI tools continue to develop.

LIMITATIONS

A limitation associated with Scopus AI use for clinical questions and systematic reviews is that

only the abstracts are assessed for relevance; if the data related to the query is not available in the abstracts, a publication will not appear in the articles cited or as part of the summary. Specific to Scopus AI, any article not indexed in the Scopus database will not appear in the search results. Another limitation is users are not able to apply limiters such as date range, language, or specific journals; all relevant articles that exist within the Scopus database since 2003 are part of the search. Therefore, historical work or seminal data prior to 2003 has potential to be missed. Advanced practice providers wanting only the most recent data to answer a clinical question may spend additional time sorting through earlier, less applicable studies.

An additional limitation is the availability or volume of data or research studies in the Scopus database abstracts to answer the original query. Only abstracts are assessed by Scopus AI, so data not recorded in the abstract will not be retrieved in search results. Greater detail or a revision of the original question may be required.

Search history is not retained in Scopus AI as seen in traditional search databases or other generative AI tools. Many researchers use search history

as a reference from their prior explorations. To retain search history in Scopus AI, the user must copy and paste to a clipboard the AI summary and references cited, using the icon just below the output summary. This step must be taken before exploration with a new query or conversation, or the prior search data may be lost. However, when utilizing the newly added “deep research” feature, reports can be exported as PDFs.

Correctly referencing articles or concepts generated through Scopus AI is essential. First, to reference, cite the article from which information was obtained. When including any aspect of the generated output on limitations, research directions, or recommendations for future studies, cite Scopus AI directly. To cite Scopus AI as the reference source, APA format is to list the author (Elsevier), the year, the AI source (Scopus AI), the descriptor, and the URL. The in-text citation would be (Scopus AI, 2026).

Ethical considerations must also be considered when using AI. Citations generated by Scopus AI are from vetted sources in Scopus with the intention to eliminate or minimize “hallucinations” best described as inferior quality data, inaccurate results, or data that does not actually exist. However, data biases/stereotypes or prejudices within historical data may exist and can occur dependent on the input query, as the natural language phrase does not directly convert into either a structured or PICO question and search string with Boolean operators. Advanced practice providers should use clinical expertise while recognizing that AI-powered searches may miss potentially important studies or generate inaccurate findings when resourcing Scopus AI in clinical care.

FUTURE DIRECTIONS

Multiple AI tools and applications are in development. Additional databases exploring embedded AI into the database search engine include EBSCO with an AI Insights feature, which utilizes AI to summarize three to five key points of an article. This is accessible via a button on EBSCO's interface for EBSCO Discovery Service (EBSCO, 2025a) and EBSCOhost research platform (EBSCO, 2025b). Insights are noted as being AI-generated, with a disclaimer urging users to verify accuracy and relevance before use (EBSCO, 2024).

Verification of accuracy and relevance is essential for APPs in practice to maintain ethical and professional responsibility when providing information to patients or for research data inclusion. Other databases, such as Web of Science, also have or are in the process of incorporating AI tools, with similar elements to Scopus AI. Finally, tools used in evidence synthesis, such as EndNote and Covidence, have incorporated AI elements.

The use of AI in database search engines has the potential to enhance the role of the oncology APP. By improving clinical decision-making, along with expediting and augmenting steps in the literature review process, AI-powered tools such as Scopus AI or clinically based OpenEvidence can allow oncology APPs to provide more timely and quality evidence-based care. Multiple tools are available to assist the researcher; Scopus AI is one of the AI-powered tools available to oncology APPs to assist in streamlining specific aspects of the systematic review development process such as the initial tasks and literature search steps. The generation of a search string query may also be of benefit for the novice reviewer as a starting point. AI tools, such as Scopus AI, may also provide the researcher with potentially new avenues for exploration related to a topic of interest. Understanding how to use Scopus AI, as well as its limitations, opens up new tools for oncology APPs to utilize to improve their clinical practice and reliably use AI to enhance research explorations. ●

Disclosure

The authors have no conflicts of interest to disclose.

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