AI Tools To Start Your Literature Research

Wednesday
29.11.2023
13:00, Zoom

Tania Rivero, MLIS
Research Support Services Team
Medical Library
AI tools

Aim for today’s session

• Considerations when using AI tools
• Ways AI tools can assist literature research
• AI literacy and use
• Explore selected AI tools for literature research
AI tools
Considerations

- Search query details are not available
- Hallucinations or inaccurate summaries
- Potential bias
- Privacy
AI tools
Supporting literature research

- Facilitate a direction for a research topic
- Identify synonyms/alternative terms for key concepts
- Help formulate or refine research questions
- Retrieve a set of key papers
- Highlight connections among papers
- Offer brief summaries to place a topic into context
- Help identify similar papers
AI literacy

- Where to start?
  - Being able to identify tools that use AI technologies
  - Being able to identify the benefits and drawbacks of AI technologies
The ROBOT Test

Amanda Wheatley  Sandy Hervieux

Reliability

- How reliable is the information available about the AI technology?
- If it’s not produced by the party responsible for the AI, what are the author’s credentials? Bias?
- If it is produced by the party responsible for the AI, how much information are they making available?
PRISMA AI reporting guidelines for systematic reviews and meta-analyses on AI in healthcare


Nature Medicine 29, 14–15 (2023) | Cite this article

JAMA Internal Medicine

Authorship Criteria and Contributions

Nonhuman artificial intelligence, language models, machine learning, or similar technologies: For authorship, if these models or tools are used to create content or assist with writing or narration, authors must take responsibility for the integrity of the content generated by these tools. Authors should report the use of artificial intelligence, language models, machine learning, or similar technologies to create content or assist with writing or editing of manuscripts in the Acknowledgment section or Methods.
AI tools
Tools we will explore

perplexity

OPEN KNOWLEDGE MAPS

Elicit
AI tools

As we explore these tools

- Reflect on your information needs
- Consider what specific tasks/features can support your current scenario
Where knowledge begins

Ask anything...

- Try asking
  - history of Argentina
  - unique colorado flowers
  - checkout time w hotel cdmx
  - how to center a div
  - brown dog name ideas
  - healthy restaurants in sf
  - $d/dx x^2$, $d/dx x^4$
What are synonyms for Alemtuzumab?

Sources

Alemtuzumab - NCI Thesaurus
Alemtuzumab (Campath)_
Alemtuzumab - Wikipedia
nih • 1
View 2 more

Answer

Synonyms for Alemtuzumab include Campath, Campath-IH, LDP-03, and LDP03. It is also known by the brand names Lemtrada and MabCampath. Alemtuzumab is a monoclonal antibody used in the treatment of B-cell chronic lymphocytic leukemia, relapsing forms of multiple sclerosis, and skin lymphoma.

Related

what is the mechanism of action of alemtuzumab
what are the side effects of alemtuzumab
what is the recommended dosage of alemtuzumab
What are synonyms for Alemtuzumab?

**Sources**
- Alemtuzumab - NCI Thesaurus
- Alemtuzumab (Campath...)
- Alemtuzumab - Wikipedia
- CancerResearch...
- Wikipedia

**Answer**
Synonyms for Alemtuzumab include Campath, Campath-1H, LDP-03, and LDP03. It is also known by the brand names Lemtrada and MabCampath. Alemtuzumab is a monoclonal antibody used in the treatment of B-cell chronic lymphocytic leukemia, relapsing forms of multiple sclerosis, and skin lymphoma.

**Related**
- What is the mechanism of action of alemtuzumab
- What are the side effects of alemtuzumab
- What is the recommended dosage of alemtuzumab
AI tools
Open Knowledge Maps

OPEN KNOWLEDGE MAPS
A visual interface to the world's scientific knowledge

PubMed (life sciences)
BASE (all disciplines)

Refine your search

Enter your search term

GO

Try out: covid-19 "climate change"
Open Knowledge Maps

**AI tools**

**Area:** Childhood adversity, Adolescent health, Adult cardiometabolic

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**Cumulative childhood adversity and adult cardiometabolic disease: A meta-analysis.** (2018)
Karen P Jakubowski, Jenny M Cundiff, Karen A Matthews

*Health psychology: official journal of the Division of Health Psychology, American Psychiatric Association.*

[doi]: https://doi.org/10.1037/hea0000637

Adverse childhood experiences may be associated with cardiometabolic morbidity and mortality in adulthood. There is heterogeneity in this literature regarding the type of items in cumulative adversity indices.

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**Systematic review of pediatric health outcomes associated with childhood adversity.** (2018)
Debora Lee Oh, Petra Jerman, Sara Silviero Marques, Kadiatou Koita, Sukhdeep...
AI tools
Elicit AI

Explore the scientific literature

1. Find papers
2. Extract data from PDFs
3. List of concepts

Ask a research question
Explore the scientific literature

- Find papers
- Extract data from PDFs
- List of concepts

Ask a research question
The top 4 papers are summarized.

A total of 8 papers are displayed in the results page.

Summary of top 4 papers

Mindfulness meditation has been shown to be effective in reducing pain severity and improving quality of life in chronic pain patients (Banth 2015, Sheybani 2022). It has also been found to help patients progress through the grieving process more quickly, and reduce depression and anxiety (Sagula 2004, Rod 2015). These findings suggest that mindfulness meditation can be a valuable tool in the management of chronic pain.
<table>
<thead>
<tr>
<th>Paper Title</th>
<th>Abstract Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Impact of Mindfulness Practice on Stress and Emotional Well-Being of Chronic Pain Patients</td>
<td>The treatment group advanced significantly more quickly through the initial stages of grieving than the comparison group.</td>
</tr>
<tr>
<td>Effectiveness of Mindfulness-based Stress Reduction (MBSR) on Patients With Chronic Pain: A Randomized Clinical Trial</td>
<td>Mindfulness-based stress reduction was effective intervention on reduction of pain severity and improvement of physical and mental quality of life of female patients with nonspecific chronic low back pain.</td>
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<td>Impact of Mindfulness Meditation on Anxiety and Depression in Chronic Pain Patients.</td>
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<tr>
<td>Effectiveness of Mindfulness-based Stress Reduction Therapy in Chronic Pain Patients</td>
<td>Mindfulness-based stress reduction therapy can be used to improve the quality of life of patients with chronic pain.</td>
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| The Effectiveness of Mindfulness Training on the Grieving Process and Emotional Well-Being of Chronic Pain Patients | The treatment group advanced significantly more quickly through the initial stages of grieving than the comparison group. | randomized controlled trial         | •Response To Loss Scale (Measuring Grief)  
•Beck Depression Inventory  
•State Trait Anxiety Inventory |
| Effectiveness of mindfulness meditation on pain and quality of life of patients with chronic low back pain | Mindfulness-based stress reduction was effective intervention on reduction of pain severity and improvement of physical and mental quality of life of female patients with nonspecific chronic low back pain. | randomized controlled trial         | •Pain Severity  
•Physical Quality Of Life  
•Mental Quality Of Life |
| Observing the Effects of Mindfulness-Based Meditation on Anxiety and Depression in Chronic Pain Patients. | Mindfulness meditation training may benefit chronic pain patients who suffer anxiety and depression. | observational study                | •Depression  
•Anxiety  
•Pain  
•Global Impression Of Change |
| Effectiveness of Mindfulness-based Stress Reduction (MBSR) on Patients With Chronic Pain: A Randomized Clinical Trial | Mindfulness-based stress reduction therapy can be used to improve the quality of life of patients with chronic pain. | randomized clinical trial           | •Pain Intensity  
•Anxiety  
•Depression |
The effectiveness of mindfulness training on the grieving process and emotional well-being of chronic pain patients.

Abstract summary

The treatment group advanced significantly more quickly through the initial stages of grieving than the comparison group.

Effectiveness of mindfulness meditation on pain and quality of life of patients with chronic low back pain.

Abstract summary

Mindfulness-based stress reduction was effective intervention on reduction of pain severity and improvement of physical and mental quality of life of female patients with nonspecific chronic low back pain.

Observing the effects of mindfulness-based meditation on anxiety and depression in chronic pain patients.

Abstract summary

Mindfulness meditation training may benefit chronic pain patients who suffer anxiety and depression.

Effectiveness of mindfulness-based stress reduction (MBSR) on patients with chronic pain: A randomized clinical trial.

Abstract summary

Mindfulness-based stress reduction therapy can be used to improve the quality of life of patients with chronic pain.
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AI tools

2

Upload papers

Drag and drop PDFs
Or click to browse files

Find papers
Extract data from PDFs
List of concepts

Upload PDFs
Select or upload papers

You have 3 papers in your library. Select papers to extract information or upload additional papers. Papers you upload are stored in your library and are only visible to you.

Paper

- Re-assembling climate change policy: Materialism, posthumanism, and the policy assemblage
  - Nick J Fox (+1)

- Integrating Public Health into Climate Change Policy and Planning: State of Practice Update
  - Mary Fox (+4)
## Limitations

The text defines social policy as "an initiative devised by a government, institution or organization to address issues bearing upon economic and political stability; continuity, security and cultural integrity, individual and collective safety; or liberty and rights to citizenship" (Shore & Wright, 1997, pp. 30-31). It also describes policy as "a material semiotic engagement or intervention that addresses an issue, event or interaction, with the objective of improving or reforming the social or natural world" (Taylor Webb & Gulson, 2012, pp. 87-88).

The text discusses the concept of policy development in the context of integrating public health into climate change policy and planning. It does not mention a specific policy or set of policies. Therefore, the answer is not mentioned.

<table>
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Elicit AI

Explore the scientific literature

- Find papers
- Extract data from PDFs
- List of concepts

What concepts are you looking for across papers? e.g. treatments for hair loss, scientific fact-checking datasets
Non-medical interventions to improve psychological outcomes in amputee patients

- Found 60 papers
- Found 131 concepts in 60 papers
- Found 71 unique concepts
- Final answer

### Immersive Virtual Reality Therapy
A treatment for amputees' phantom limb pain using immersive virtual reality.

C. Murray 2005

This paper describes a study protocol to investigate the use of immersive virtual reality as a treatment for amputees' phantom limb pain.

K. Srivastava & S. Chaudhury 2014

Structured psychotherapeutic intervention module (PIM) developed for the intervention.

### Exercise-based amputee rehabilitation program
A program aimed at improving postural control and quality of life in people with unilateral transtibial amputation (TTA).

Masoud Kashfi 2021

This study aimed to investigate whether the exercise-based amputee rehabilitation program improves postural control and quality of life in people with unilateral transtibial amputation (TTA).
AI tools

Take-aways

- AI searching tools can be a helpful starting point
- Consult with your advisor regarding policies on the use of AI tools for thesis and dissertations
- For journal submissions, review your target journal’s policies on AI use and reporting
- Critically review and fact check generated summaries and references
- Continue to enhance your AI literacy skills
AI tools
Want to learn more?

Tools for Academic Workflows
Useful databases, tools for statistical analysis, data visualization, citation management, and much more.

AI Tools for Reviews

Show tools

AI Tools

Useful databases in medicine

Useful databases in pharmacy
Thanks for your attendance

Next Coffee Lectures:

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Medical Library

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for your attendance

Now there is time for...

Questions & Discussion

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