

Using Artificial Intelligence to Conduct Research on the Health Benefits of Tai Chi: A Pilot Study

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ABSTRACT

This study searched for information on the health benefits of tai chi on three artificial intelligence chatbots in an effort to determine what kind of information could be found, and which chatbot did the best job of finding relevant information. The study found that all three of the bots were able to find useful information, but that the type of information found was more relevant to patients and nonprofessionals than to medical professionals. The study concluded that the PubMed database would be a better choice for information about tai chi that would be useful for medical professionals, although the information found on the three chatbots would serve as a useful introduction for medical professionals who had little or no knowledge of the health benefits of tai chi.

Keywords: Artificial Intelligence AI; Tai Chi; Qigong; Traditional Chinese Medicine; TCM

Introduction

Tai chi is both a martial art and a series of health exercises [1-23]. Its origins are steeped in mystery, but what is known is that the practice of tai chi can provide health benefits and can strengthen the body's natural immune system to ward off a number of ailments. It has been a tool of traditional Chinese medicine (TCM) for a long time. Tai chi has been shown to be beneficial in the treatment of various kinds of cancer [7,11,18,19,23], hypertension [14], dementia [22] and cognitive impairment [15], depression and anxiety [12], arthritis [13], and a wide range of other ailments [1-6,8-10,16-17,20-21]. Much research on the health benefits of tai chi has been conducted in recent years. A great deal of the research has been conducted in China, but that is starting to change, as the practice of tai chi as a supplementary treatment for a wide range of diseases and ailments has filtered into the West. One good source of research on the health benefits of tai chi is the PubMed database [24], which is affiliated with the National Library of Medicine, National Center for Biotechnology Information. However, that is not the only source of information. Google searches can also be conducted, for example. The purpose of the present study is to test a few of the currently popular artificial intelligence (AI) chatbots in order to determine whether they can be used to produce good

medical tai chi research, and also to determine which chatbot might be the best one to use for such research.

The Study

The study begins by giving the chatbots an instruction, then comparing the results to determine which one provided the best answers.

Instruction

Make a list of websites where I can obtain information about the health benefits of tai chi. Gab.ai [25] provided a list of eight websites, given below. Some of the sources were good, in terms of providing general medical information, but none of them provided much information on the health benefits of tai chi.

- 1) Mayo Clinic: <https://www.mayoclinic.org/healthy-lifestyle/stress-management/in-depth/tai-chi/art-20045184>
- 2) Harvard Health Publishing: <https://www.health.harvard.edu/staying-healthy/the-health-benefits-of-tai-chi>
- 3) National Center for Complementary and Integrative Health: <https://www.nccih.nih.gov/health/TaiChi-Facts>

4) Arthritis Foundation: <https://www.arthritis.org/health-wellness/healthy-living/managing-pain/chinese-therapies/the-benefits-of-tai-chi-for-arthritis>

5) Centers for Disease Control and Prevention: <https://www.cdc.gov/arthritis/basics/complementary-medicines.html#taich>

6) American Cancer Society: <https://www.cancer.org/treatment/treatments-and-side-effects/physical-activity-and-diet/physical-activity/exercise-help-lower-cancer-risk/exercise-benefits/tai-chi.html>

7) Johns Hopkins Medicine: <https://www.hopkinsmedicine.org/health/wellness-and-prevention/the-health-benefits-of-tai-chi-chuan>

8) WebMD: <https://www.webmd.com/balance/guide/what-is-tai-chi#1>

Copilot [26] is another chat bot. It is a Microsoft bot that uses GPT4. This bot provided five references as well, and they were of better quality because they focused more on the health benefits of tai chi. Certainly! Here are some reputable sources where you can learn more about the health benefits of tai chi:

1) Harvard Health Publishing: Their article on The Health Benefits of Tai Chi provides insights into how this gentle exercise can enhance strength, flexibility, balance, and overall well-being. It's often described as "meditation in motion" and has value in treating or preventing various health conditions [27].

2) Medical News Today: Their piece on Tai chi: Benefits, types, and history discusses how tai chi combines physical exercise, stretching, and mindfulness. Research suggests that it can improve balance control, fitness, and flexibility [28].

3) Healthline: Their article highlights the emotional and physical benefits of tai chi, including decreased anxiety, improved cognition, and management of symptoms related to chronic diseases like fibromyalgia and COPD [29].

4) Tai Chi Basics: This resource delves into clinically proven health benefits of tai chi, such as mobility improvement, enhanced physical fitness, immunity, and reduced impact of chronic conditions like cancer, diabetes, and heart failure [30].

5) Cleveland Clinic Health Essentials: They emphasize that tai chi helps reduce stress, improves balance (which is crucial for preventing falls), and benefits brain health [31].

Feel free to explore these sources to gain a deeper understanding of how tai chi can positively impact your health!

Google Gemini [32] (formerly Bard) is another chatbot.

Sure, here is a list of websites where you can learn more about the health benefits of tai chi:

- National Center for Complementary and Integrative Health (NCCIH): The NCCIH is a reliable source of information on complementary and integrative health practices, including tai chi. The NCCIH website provides a fact sheet on tai chi that summarizes the current research on its health benefits. <https://www.nccih.nih.gov/>

- Mayo Clinic: The Mayo Clinic is a non-profit organization that provides medical information and resources. The Mayo Clinic website has a page on tai chi that discusses its potential benefits for a variety of health conditions, including arthritis, fibromyalgia, and balance problems. <https://blog.optimalworkshop.com/website-review-mayo-clinic/>

- Harvard Health Publishing: Harvard Health Publishing is a division of Harvard University that produces health information for the public. The Harvard Health website has an article on tai chi that explains its history, philosophy, and potential health benefits. <https://www.health.harvard.edu/>

- Tai Chi for Health Institute: The Tai Chi for Health Institute is a non-profit organization that promotes the health benefits of tai chi. The institute's website provides information on the different styles of tai chi, as well as research on its health benefits. <https://taichiforhealthinstitute.org/instructors/>

- American Tai Chi & Qigong Association: The American Tai Chi & Qigong Association is a professional organization for tai chi and qigong instructors. The association's website provides a directory of instructors, as well as information on tai chi classes and workshops. <http://americantaichi.org/>

These are just a few of the many websites that offer information on the health benefits of tai chi. When researching any health topic, it is important to consult with a healthcare professional to get personalized advice.

Concluding Comments

All of the chatbots provided useful information and links, but Copilot seemed to do the best job because it provided citations to good, general interest articles. However, the information they provided is more useful for patients and nonprofessionals than for medical practitioners, unless the medical practitioner does not have much knowledge of tai chi. In that case, these sources could serve as a useful introduction to tai chi. Medical practitioners who want to read something about the medical studies that have been conducted on the use of tai chi as a supplemental therapy would be best served by going to the PubMed [24] website. A key word title/abstract search for "tai chi" in the PubMed database found 2391 hits. Thus, medical professionals who want to learn more about medical studies involving tai chi would be best served by going to the PubMed website rather than the websites discovered by the three chatbots.

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Conflict of Interest

None.

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