

Using Tai Chi, Qigong and Chinese Herbs to Reduce Cholesterol: A Study Incorporating Artificial Intelligence

Robert W McGee*

Fayetteville State University, USA

*Corresponding author: Robert W McGee, Fayetteville State University, USA

ARTICLE INFO

Received: 📅 June 04, 2024

Published: 📅 June 14, 2024

Citation: Robert W McGee. Using Tai Chi, Qigong and Chinese Herbs to Reduce Cholesterol: A Study Incorporating Artificial Intelligence. Biomed J Sci & Tech Res 57(1)-2024. BJSTR.MS.ID.008943.

ABSTRACT

The purpose of this study was two-fold, first, to see what kind of information artificial intelligence could generate on a medical topic, and second, to generate useful medical information that could be of interest to both the public and the medical professional. Microsoft Copilot was used to create brief essays on tai chi, qigong and Chinese herbs and their use in attempting to reduce bad cholesterol. It was able to do so, and also cited numerous publications on the targeted topic. The research was supplemented by using the PubMed database to see what research had already been conducted on the use of tai chi, qigong and Chinese herbs on the reduction of cholesterol. The methodology employed in the present study can also be used in other studies, both medical and nonmedical, to generate useful information on a wide range of topics that can be read by both professionals and the general reader. However, care must be taken if one attempts to act on the information provided by artificial intelligence, since prior studies have found that the quality of information provided by AI bots can sometimes be incorrect or incomplete. AI can be used as a tool of medical and other research, but the human brain is still needed to check the accuracy of whatever information AI generates. Although AI can be very useful in the preliminary stages of a research project, it should not be the only source of information that is to be relied upon.

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

Introduction

Artificial intelligence has been around for a long time. In recent years its tools have become more widely available to the public. Microsoft Copilot [1] is currently one of the more popular tools of AI that are easy enough to be used effectively by both scholars and amateurs. Because of its widespread use and the ease with which it can be utilized, I have decided to use it instead of any of the several other available chatbots to illustrate how it can be used in medical research. Scholars have started to incorporate the use of AI in their medical research [2-57], and the results have been quite promising, although one must beware of any results obtained using AI because chatbots have not yet been developed to the point where they can be totally relied upon to produce accurate, complete and truthful results [58-60]. An earlier version of ChatGPT was found to have created scholarly references out of thin air [61], and chatbots are not necessarily neutral. They have been known to engage in censorship or bi-

ases [62-71]. Thus, it is necessary for scholars to check the results of any chatbot-produced research for accuracy. However, their use can be very effective as a starting point for medical research, since using them can alert researchers to some studies they would not otherwise have known existed, and can even shift the focus of the research, as scholars become exposed to existing research on their topic as well as tangential research on related and closely connected topics. The present study focuses on how some tools of Traditional Chinese Medicine (TCM) have been used to reduce cholesterol. The same methodology can be used to obtain relevant information about a wide range of other medical subjects.

The Study

Three of the tools in the toolbox of Traditional Chinese Medicine (TCM) are tai chi, qigong and Chinese herbs. Let's see what Copilot has to say about them. We will start by giving Copilot simple instructions.

Instruction

How old is tai chi?

Reply

Tai Chi, also known as Taijiquan, is a martial art that has a rich history dating back centuries. The exact age of Tai Chi is somewhat debated, but it is generally accepted that Tai Chi originated in China with roots that can be traced back to the 12th century [72]. It was developed by a Taoist monk named Zhang San Feng and has evolved over time, incorporating deep breathing, slow movements, and meditation into its practice [72]. The art form is deeply connected to Eastern philosophies and the concept of Taiji, which means “supreme ultimate,” reflecting the art’s encompassing nature of the universe and the dynamic balance of opposites [73]. Tai Chi’s development over the years has led to the creation of various styles, with most modern styles tracing their lineage to the five traditional schools: Chen, Yang, Wu (Hao), Wu, and Sun [74]. In 2020, Tai Chi was included in the UNESCO List of Intangible Cultural Heritage of Humanity, highlighting its global significance and enduring cultural value [74]. This recognition underscores art’s longstanding tradition and its continued relevance in modern times. Tai Chi remains a popular practice worldwide, known for its health benefits and philosophical depth.

Author Comment

Copilot was able to provide a concise overview of the history of tai chi. It also provided references for readers who would like to obtain more information about the topic. It also gave one reference that it did not cite specifically [75]. All the references given were on point, which is not always the case. Copilot has been known to sometimes cite sources that are not on point. Thus, it is necessary for scholars to check the sources Copilot (and other chatbots) cites because the accurate rate is currently less than 100 percent.

Instruction

How old is qigong?

Reply

Qigong, the Chinese practice of aligning breath, movement, and awareness for exercise, healing, and martial arts training, has a rich history that extends back more than 4,000 years. It is a complex accretion of various ancient Chinese practices with roots in traditional medicine, philosophy, and martial arts [76]. The earliest forms of qigong can be traced back to ancient shamanic meditative practices and gymnastic exercises. For example, archeological evidence, such as a nearly 7,000-year-old Neolithic vessel, depicts a priest-shaman in a posture indicative of early qigong practices [76]. Additionally, the physical exercise chart unearthed from the 2nd-century BC burial site at Mawangdui Han tombs in China shows daoyin exercises that bear resemblance to modern qigong forms [76]. Qigong’s development was also influenced by the three pillars of traditional Chinese

society: Confucianism, Taoism, and Buddhism. These philosophies deeply influenced the philosophy and practice of qigong, integrating concepts of qi training as methods of moral training and meditative cultivation [77]. Overall, while the documented history of qigong goes back approximately 2,500 years, references to qigong-like techniques have been found that date back at least 5,000 years [78]. This makes qigong one of the oldest systems of exercise and meditation known to humanity.

Author Comment

Again, Copilot was able to provide a brief history, which adequately informs readers of the basic origin of qigong. It also provided references (including links) so that those who are interested in learning more can easily do so. It provided one additional reference that was not cited in its brief essay [79].

Instruction

How long have the Chinese been using herbs to treat diseases and other ailments?

Reply

Chinese herbal medicine has a history of about 2,200 years, although references to herbal remedies can be traced back even further. Let’s explore this fascinating journey:

1. Ancient Origins:

- **The earliest known written record of Chinese medicine is the Huangdi neijing (The Yellow Emperor’s Inner Classic) from the 3rd century BCE [80]. This opus provided the theoretical concepts for Traditional Chinese Medicine (TCM) that remain the basis of its practice today.**

- **Shamanic Practices:** Even before recorded history, ancient Chinese shamans practiced meditative techniques and used herbs for healing.

- **Neolithic Evidence:** Archeological findings, such as a nearly 7,000-year-old Neolithic vessel, depict a priest-shaman in a posture indicative of early qigong practices, which included herbal elements [81].

2. Development of Chinese Herbal Medicine:

- **Emperor Shen Nong:** Around 2700 BCE, Emperor Shen Nong, a legendary figure, is said to have tasted hundreds of herbs to understand their properties and effects. His work laid the foundation for herbal medicine.

- **Classic Texts:** The Classic of Changes (Yi Jing) and the Classic of Poetry (Shi Jing) contain some of the oldest medical writings on herbs, dating back to the early Zhou Dynasty or even earlier [82].

- **Li Shizhen's Compendium:** In 1578, Li Shizhen published the famous *Bencao gangmu* (Compendium of Materia Medica), listing 1,892 drugs and over 11,000 formal prescriptions for specific ailments. This comprehensive work remains influential in Chinese herbalism [81].

3. Principles of Chinese Herbal Medicine:

- **Holistic Approach:** Unlike Western medicine, which often focuses on symptoms or diseases, Chinese herbalists treat entire human beings, considering patterns of symptoms.

- **Pattern Differentiation:** Chinese herbal medicine emphasizes identifying a person's unique collection of signs and symptoms. It doesn't just treat diseases; it addresses patterns and patients.

- **Qi and Meridians:** TCM recognizes the body's qi (life force) flowing through invisible meridians. Balancing this energy is crucial for health.

4. Diverse Forms of Chinese Herbal Therapy:

- **Traditional Formulas:** Herbalists use traditional formulas with strictly designated roles. Some herbs address the primary complaint, while others tackle secondary issues.

- **Custom Formulas:** Most herbal formulas are customized for each person based on their unique needs.

- **Administration:** Chinese herbal therapy can take the form of granules, capsules, teas, liquid extracts, or powders. In summary, Chinese herbal medicine has a rich history spanning thousands of years, blending ancient wisdom with modern practices to promote health and balance. Remember to consult a qualified practitioner before using any herbal remedies!

Author Comment

Again, Copilot has created an excellent summary aimed at the general reader. It also provided references for further reading.

Instruction

Can tai chi or qigong exercises reduce cholesterol?

Reply

Yes, tai chi and qigong exercises can help reduce cholesterol levels. According to a study published in the *Journal of the American Heart Association*, these forms of traditional Chinese exercises were found to help lower high blood pressure and high cholesterol in people with cardiovascular disease [83]. The study reviewed 35 studies including 2,249 participants and found that those who practiced tai chi, qigong, and baduanjin experienced reductions in systolic and diastolic blood pressure as well as small but meaningful reductions in levels of LDL (bad) cholesterol and triglycerides [83]. Moreover, these exercises are gentle and can be adapted to various fitness levels, mak-

ing them suitable for a wide range of individuals looking to improve their heart health [84,85]. While they may not significantly improve aerobic fitness levels, the combination of physical movement, mental focus, and breathing involved in tai chi and qigong offers a holistic approach to well-being that can contribute to cardiovascular health [83, 84]. It's always recommended to consult with a healthcare provider before starting any new exercise regimen, especially if you have existing health conditions.

Author Comments

The short essay was sufficient to give the reader a basic understanding of the subject. It cited 3 references [83-85] and provided two additional references [86,87]. I asked again, with a slightly different question. I wanted to see if Copilot would give a different or more detailed reply. It did.

Question

Do tai chi or qigong exercises reduce bad cholesterol?

Response

Certainly! Both tai chi and qigong have been associated with potential benefits for heart health, including the reduction of bad cholesterol (low-Density Lipoprotein or LDL). Let's explore this further:

1. Tai Chi:

- Tai chi is a traditional Chinese mind-body exercise that combines slow, flowing movements with deep breathing and mental focus.

- Research suggests that tai chi may help lower cholesterol levels and dampen inflammation, both of which are linked to better heart health [88].

- While the evidence for cholesterol reduction is not as robust as for blood pressure improvement, tai chi remains a gentle and accessible form of exercise that can benefit overall cardiovascular health.

2. Qigong:

- Qigong is another ancient Chinese practice that involves specific postures, gentle movements, breathing techniques, and meditation.

- A study published in the *Journal of the American Heart Association* found that qigong, along with other traditional Chinese exercises, helped reduce high blood pressure and high cholesterol in people with cardiovascular disease [89].

- Participants in the Chinese exercise groups experienced significant reductions in systolic blood pressure (the top number) and diastolic blood pressure (the bottom number). Additionally, small but meaningful reductions occurred in LDL cholesterol and triglycerides.

- Qigong is a versatile practice that can be done while walking, standing, or even sitting, making it suitable for people at various fitness levels.

3. Baduanjin:

- Baduanjin, also known as the Eight Brocades, is another form of traditional Chinese exercise that combines movement, breathing, and mental focus.

- While not as well-studied as tai chi or qigong, baduanjin shares similar principles and may offer similar benefits for heart health. Remember that these exercises are gentle and low impact, making them suitable for people of different ages and fitness levels. If you're interested in reaping their benefits, consider incorporating tai chi, qigong, or baduanjin into your routine. Always consult with a healthcare professional before starting any new exercise program, especially if you have existing health conditions [89,90].

Author Comments

Copilot delivered another good summary. This time it cited three sources [88-90] and provided 4 additional references [91-94]. Chinese herbal medicines may also be used to reduce cholesterol. I was curious to see what Copilot would decide to select on this question, so I asked.

Instruction

What Chinese herbal medicines have been shown to reduce cholesterol? Give citations.

Reply

Traditional Chinese Medicine (TCM) includes a variety of herbs that have been studied for their potential to reduce cholesterol levels. Here are some of the herbs that have been mentioned in research:

1. **He Shou Wu or Fo-Ti Root (*Polygonum multiflorum*):** This herb is considered a primary essence tonic in TCM and has been suggested to have a lipid-lowering effect [95]1.
2. **Citrus Bergamot:** Research indicates that Citrus Bergamot may work similarly to statin drugs by inhibiting HMG-CoA, a precursor for cholesterol synthesis, and may reduce total cholesterol and LDL while increasing HDL [96]2.
3. **Salvia Root (Dan Shen), Notoginseng Root (San Qi), and Astragalus (Huang Qi):** These herbs are commonly prescribed in TCM for cholesterol support [97]3.
4. **Red Yeast Rice (*Monascus purpureus*), Jue Ming Zi (Semen cassia), Shan Zha (*Crataegi Fructus*), Zi Xie (*Rhizoma Alismatis*), and Dan Shen (*Salvia miltiorrhizae*):** These are among the herbs used for cholesterol reduction in TCM [98]4. It's important to note that while these herbs are used in TCM

and some studies suggest potential benefits, they should be used under the guidance of a healthcare professional, especially since they can interact with other medications and may not be suitable for everyone. Always consult with a healthcare provider before starting any new treatment.

Author Comment

Copilot provided a brief introduction to the topic and cited four sources [95-98]. It also listed one additional item for further reading [99]. I wanted to see if Copilot could provide some additional details, so I asked.

Instruction

Can you provide more details about the studies?

Reply

Certainly! Here are more details about some of the studies on Chinese herbal medicines for reducing cholesterol:

1. **Cochrane Review:** A Cochrane review examined 22 randomized controlled trials involving 2130 participants to evaluate the effects of various Chinese herbal formulations for treating hypercholesterolemia. The review highlighted that some herbal medicines might have cholesterol-lowering effects, but the evidence should be interpreted with caution due to the high or unclear risk of bias in the included trials [100].
2. **Therapeutic Potential:** A study published in the journal Environmental Science and Pollution Research discussed the therapeutic potential of herbal medicine for managing hyperlipidemia. It emphasized the importance of medicinal plants and their active phytoconstituents in regulating blood lipid levels and suggested that Chinese herbal medicine and combination therapy could be promising for lowering hyperlipidemia [101].
3. **Effects and Safety:** Research published by Hindawi indicated that Chinese Herbal Medicine (CHM) interventions, compared to placebo, reduced triglyceride levels and increased HDL cholesterol over a median of 12 weeks. The findings from meta-analyses showed a significant effect of CHM on blood lipid profiles [102].
4. **Progress and Perspective:** Another study from Hindawi categorized Chinese herbs based on their effects on hyperlipidemia. Herbs were classified into categories such as clearing heat and removing toxicity, promoting blood circulation and removing blood stasis, eliminating dampness and phlegm, and tonifying the energy of the body. The study provided a comprehensive list of herbs and their potential effects on lipid profiles [103]. These studies collectively suggest that Chinese herbal medicines have potential in managing cholesterol levels, but further research is needed to fully understand their efficacy and safety. It's also important to consult with healthcare professionals before using any herbal remedies, especially if you're taking other medications.

Author Comment

Copilot provided more detail as well as four citations. Next, I wanted to ask if the herbs produced any side effects.

Instruction

Are there any side effects of these herbs?

Reply

Common side effects associated with Chinese herbal medicines can vary depending on the specific herb and the individual's response to it. However, some general side effects that have been reported include:

- **Digestive Issues:** Some individuals may experience nausea, diarrhea, or constipation after taking certain Chinese herbs [104].
- **Allergic Reactions:** Herbs can cause skin reactions, rashes, or more severe allergic responses such as trouble breathing [105].
- **Headache and Dizziness:** These are common side effects that may occur with a variety of herbal supplements [105].
- **Heart-Related Issues:** Certain herbs may cause heart palpitations or arrhythmias [106].
- **Interactions with Medications:** Some herbs can interact with prescription drugs, potentially leading to increased side effects or decreased effectiveness of the medications [106]. It's important to note that while these side effects are possible, they may not occur in everyone and can depend on dosage and individual health conditions. Always consult with a healthcare provider before starting any new herbal treatment, especially if you are currently taking other medications or have underlying health conditions. They can provide guidance tailored to your specific situation and help monitor for any adverse effects.

Author Comment

Copilot provided additional information as well as three citations [104-106] and one additional reference [107]. Next, I wanted to learn whether there are any herbs that are generally safe for cholesterol management.

Instruction

Are there any herbs that are generally safe for cholesterol management?

Reply

When considering the safety of Chinese herbs for cholesterol management, it's important to understand that "generally safe" can vary from person to person based on individual health conditions, potential allergies, and interactions with other medications. However,

some herbs are commonly used and are considered to have a lower risk of side effects when used appropriately:

1. **Hawthorn Berry (Shan Zha):** Often used to support heart health and may help manage cholesterol levels with minimal side effects [108].
2. **Red Yeast Rice (Monascus Purpureus):** Contains compounds like statin medications and is frequently used for cholesterol management, but it should be used under supervision due to potential liver enzyme elevation [109].
3. **Plant Sterols and Stanols:** While not a traditional Chinese herb, these substances are found in many plants and can help lower cholesterol levels. They are often added to foods and are available as supplements [110]. It's crucial to consult with a healthcare provider before starting any herbal regimen, especially for managing cholesterol, to ensure that it's appropriate for your specific health needs and doesn't interfere with any medications you may be taking. They can also provide guidance on proper dosages and forms of the herbs to use. Remember, what is safe for one person may not be safe for another, so personalized medical advice is always the best course of action.

Author Comment

The copilot was able to provide an answer. It also gave four citations [107-110] and two additional references [111-112]. Copilot provided many articles and a few videos that were of general interest and written in a style that a nonprofessional could easily understand. It also cited a few medical studies that were aimed at professionals. I wanted to see if I could find additional medical studies that were written in a more professional style and that were aimed at professionals, so I went to the PubMed database [113] and conducted a search for studies that included both cholesterol and tai chi in either the title or abstract. I found several such studies, a sampling of which are listed in the reference section [114-129]. Medical professionals who want to find medical studies on cholesterol that have involved qigong or Chinese herbal medicine can conduct similar searches.

Concluding Comments

The study was successful, in that it accomplished its mission. The goal was to see whether Microsoft Copilot was able to generate information that would be useful to both the general reader and medical professionals on the topic of cholesterol and how tai chi, qigong and Chinese herbs may be used to reduce it. The methodology employed in the present study can also be used in other studies, both medical and nonmedical, to generate useful information on a wide range of topics that can be read by both professionals and the general reader. However, care must be taken if one attempts to act on the information provided by artificial intelligence, since prior studies have found that the quality of information provided by AI bots can sometimes be incorrect or incomplete. AI can be used as a tool of medical and other

research, but the human brain is still needed to check the accuracy of whatever information AI generates. Although AI can be very useful in the preliminary stages of a research project, it should not be the only source of information that is to be relied upon.

References

1. Copilot [Copilot GPT4 Microsoft]. <https://copilot.microsoft.com/>.
2. M Ablameyko, N Shakel (2022) Doctor-Patient-Artificial Intelligence Relations in Smart Healthcare. *Biomed J Sci & Tech Res* 44(5): 36021- 36027.
3. Marcos AM Almeida, Matheus HC de Araujo (2023) The Use of Artificial Intelligence in the Classification of Medical Images of Brain Tumors. *Biomed J Sci & Tech Res* 53(4): 45067-45079.
4. Emmanuel Andrès, Nathalie Jeandidier, Noel Lorenzo Villalba, Laurent Meyer, Abrar Ahmad Zulfiqar, et al. (2020) Currents and Emerging Technologies for Diabetes Care. *Biomed J Sci & Tech Res* 25(2): 18897-18905.
5. Archana P, Lala Behari S, Debabrata P, Vinita S (2019) Artificial Intelligence and Virtual Environment for Microalgal Source for Production of Nutraceuticals. *Biomed J Sci & Tech Res* 13(5): 10239-10243.
6. Ahmed Asfari (2021) Artificial Intelligence Role and Clinical Decision Support System Extubation Readiness Trail and Etiometry Scoring System. *Biomed J Sci & Tech Res* 35(1): 27219-27293.
7. Ashis Kumar D, Harihar Bhattarai, Saji Saraswathy Gopalan (2019) Determinants of Generic Drug Use Among Medicare Beneficiaries: Predictive Modelling Analysis Using Artificial Intelligence. *Biomed J Sci & Tech Res* 22(1): 16405-16413.
8. Chris Caulkins (2019) Detection of Psychological Trauma and Suicide Risk among Emergency Medical Services Personnel: An Artificial Intelligence Approach. *Biomed J Sci & Tech Res* 23(3): 17372-17376.
9. Kuo Chen Chou (2020) How the Artificial Intelligence Tool iRNA-PseU is Working in Predicting the RNA Pseudouridine Sites? *Biomed J Sci & Tech Res* 24(2): 18055-18064.
10. Philippe Funk (2023) Biomedical Computation Artificial Intelligence Challenges in Cloud Environments. *Biomed J Sci & Tech Res* 50(4): 71813-41816.
11. Swati Gupta, Dheeraj Kumar Sharma, Manish Gupta K (2019) Artificial Intelligence in Diagnosis and Management of Ischemic Stroke. *Biomed J Sci & Tech Res* 13(3): 9964-9967.
12. Angela Hsu, Robin Zachariah, James Han, William Karnes (2023) Artificial Intelligence for Colonoscopy: Beyond Polyp Detection – A Review of where we are Today and where AI can Take us. *Biomed J Sci & Tech Res* 49(3): 40736-40739.
13. Hamid Yahya Hussain (2020) Frailty and Spousal/Partner Bereavement in Older People: A Systematic Scoping Review Protocol. *Biomed J Sci & Tech Res* 24(4): 18400-18401.
14. Hergan Klaus, Zinterhof Peter, Abed Selim, Schörghofer Nikolaos, Knapitsch Christoph, et al. (2022) Challenges implementing and running an AI-Lab: Experience and Literature Review. *Biomed J Sci & Tech Res* 45(4): 36605-36611.
15. Ik Whan G Kwon, Sung Ho Kim (2021) Digital Transformation in Healthcare. *Biomed J Sci & Tech Res* 34(5): 27070-27071.
16. Jyoti Lamba, Taniya Malhotra, Drishti Palwankar, Vrinda Vats, Akshat Sachdeva (2023) Artificial Intelligence in Dentistry: A Literature Review. *Biomed J Sci & Tech Res* 51(1): 42323-42326.
17. Jae-Eun Lee (2018) Artificial Intelligence in the Future Biobanking: Current Issues in the Biobank and Future Possibilities of Artificial Intelligence. *Biomed J Sci & Tech Res* 7(3): 5937-5939.
18. Luca Marzi, Fabio Vittadello, Alessandra Andreotti, Andrea Piccin, Andrea Mega (2021) Will Artificial Intelligence Unveil Hepatocellular Carcinoma? *Biomed J Sci & Tech Res* 35(4): 27913-27914.
19. Rosario Megna, Alberto Cuocolo, Mario Petretta (2019) Applications of Machine Learning in Medicine. *Biomed J Sci & Tech Res* 20(5): 15350-15352.
20. Sotiris Raptis, Christos Ilioudis, Vasiliki Softa, Kiki Theodorou (2022) Artificial Intelligence in Predicting Treatment Response in Non-Small-Cell Lung Cancer (NSCLC). *Biomed J Sci & Tech Res* 47(3): 38421-38428.
21. Richard MF, Matthew RF, Andrew Mc K, Tapan KC (2018) FMTVDM©@*** Nuclear Imaging Artificial (AI) Intelligence but First We Need to Clarify the Use Of (1) Stress, (2) Rest, (3) Redistribution and (4) Quantification. *Biomed J Sci & Tech Res* 7(2): 5854-5857.
22. Omar Sayyoubh (2022) Machine Learning Application to Combat Superbugs in Hospitals: A Primer to Infection Prevention Practitioners. *Biomed J Sci & Tech Res* 44(5): 35968-35971.
23. Shivani S, Abhishek A, Rajvardhan A (2020) Prospects of Artificial Intelligence in Ophthalmic Practice. *Biomed J Sci & Tech Res* 27(5): 21159-21166.
24. Woo Sung Son (2018) Drug Discovery Enhanced by Artificial Intelligence. *Biomed J Sci & Tech Res* 12(1): 8936-8938.
25. Michael L Carty, Stephane Bilodeau (2023) Artificial Intelligence and Medical Oxygen. *Biomed J Sci & Tech Res* 51(2): 42413-42421.
26. Benjamin Wu, Yucheng Liu, Meng Jou Wu, Hiram Shaish, Hong Yun Ma (2024) Usage of Artificial Intelligence in Gallbladder Segmentation to Diagnose Acute Cholecystitis. A Case Report. *Biomed J Sci & Tech Res* 55(2): 46766-46770.
27. Min Wu (2019) Modeling of an Intelligent Electronic Medical Records System. *Biomed J Sci & Tech Res* 19(4): 14441-14442.
28. Mingbo Zhang, Huipu Han, Zhili Xu, Ming Chu (2019) Applications of Machine Learning in Drug Discovery. *Biomed J Sci & Tech Res* 23(1): 17050-17052.
29. McGee Robert W (2020) Qigong: A Bibliography of Books and Other Materials, Fayetteville State University, Broadwell College of Business and Economics, Studies in the Economics of Qigong 1: 1-13.
30. McGee Robert W (2020) A Bibliography of Recent Medical Research on Qigong, Fayetteville State University, Broadwell College of Business and Economics, Studies in the Economics of Qigong 2: 1-18.
31. McGee Robert W (2020) Ba Duan Jin as a Treatment for Physical Ailments: A Bibliography of Recent Medical Research, Fayetteville State University, Broadwell College of Business and Economics, Studies in the Economics of Qigong 3: 1-11.
32. McGee Robert W (2020) Wu Qin Xi as a Treatment for Physical Ailments: A Bibliography of Recent Medical Research, Fayetteville State University, Broadwell College of Business and Economics, Studies in the Economics of Qigong 4: 1-7.
33. McGee Robert W (2020) The Use of Yi Jin Jing to Treat Illness: A Summary of Three Studies, Fayetteville State University, Broadwell College of Business and Economics, Studies in the Economics of Qigong 5: 1-8.
34. McGee Robert W (2020) Qigong and the Treatment and Prevention of COVID-19, Fayetteville State University, Broadwell College of Business and Economics, Studies in the Economics of Qigong 6: 1-10.
35. McGee Robert W (2020) Qigong and the Treatment and Prevention of Cancer, Fayetteville State University, Broadwell College of Business and Economics, Studies in the Economics of Qigong 7: 1-21.

36. McGee Robert W (2021) Tai Chi, Qigong and Transgender Health. Fayetteville State University, Broadwell College of Business and Economics, Studies in the Economics of Tai Chi and Qigong 8.
37. McGee Robert W (2021) The Use of Yi Jin Jing to Treat Illness: A Summary of Three Studies. *Academia Letters* 547.
38. McGee Robert W (2021). Tai Chi, Qigong and the Treatment of Disease. *Biomedical Journal of Scientific & Technical Research* 34(2): 26627-26633.
39. McGee Robert W (2021) Tai Chi, Qigong and the Treatment of Cancer. *Biomedical Journal of Scientific & Technical Research* 34(5): 27173-27182.
40. McGee Robert W (2021) Tai Chi, Qigong and the Treatment of Depression and Anxiety. *Biomedical Journal of Scientific & Technical Research* 36(2): 28350-28354.
41. McGee Robert W (2021) Tai Chi, Qigong and the Treatment of Arthritis. *Biomedical Journal of Scientific & Technical Research* 37(5): 29724-29734.
42. McGee Robert W (2021) Tai Chi, Qigong and the Treatment of Hypertension. *Biomedical Journal of Scientific & Technical Research* 39(1): 31055-31062.
43. McGee Robert W (2021) Ba Duan Jin and the Treatment of Illness in General, and Cognitive Impairment in Particular. *Biomedical Journal of Scientific & Technical Research* 40(2): 32058-32065.
44. McGee Robert W (2022) Qigong and the Treatment of Illness: Recent Case Studies. *Biomedical Journal of Scientific & Technical Research* 43(1): 34250-35253.
45. McGee Robert W (2022) A Suggestion for Treating Amyotrophic Lateral Sclerosis (ALS), *Biomedical Journal of Scientific & Technical Research* 44(4): 35627-35631.
46. McGee Robert W (2022) Using Tai Chi and Qigong to Treat Cancer Symptoms. *Biomedical Journal of Scientific & Technical Research* 45(2): 36333-36336.
47. McGee Robert W (2022) Traditional Chinese Medicine and the Treatment of Cancer, *Biomedical Journal of Scientific & Technical Research* 47(4): 38636-38639.
48. McGee Robert W (2023) Recent Studies in Traditional Chinese Medicine (TCM), *Biomedical Journal of Scientific & Technical Research* 50(4): 41817-41820.
49. McGee Robert W (2023) Some Beneficial Health Effects of Tai Chi and Qigong. *Biomedical Journal of Scientific & Technical Research* 52(3): 43813-43817.
50. McGee Robert W (2023) Tai Chi, Qigong and the Treatment of Dementia, *Biomedical Journal of Scientific & Technical Research* 53(5): 45080-45085.
51. McGee Robert W (2024) Tai Chi, Qigong and the Treatment of Breast Cancer, *Biomedical Journal of Scientific & Technical Research* 54(3): 46024-46027.
52. McGee Robert W (2024) Using Artificial Intelligence to Conduct Research on the Health Benefits of Tai Chi: A Pilot Study. *Biomedical Journal of Scientific & Technical Research* 55(2): 46838-46841.
53. McGee Robert W (2024) Tai Chi, Qigong and the Treatment of Lung Cancer: A Study in Artificial Intelligence, *Biomedical Journal of Scientific & Technical Research* 55(4): 47220-47225.
54. McGee Robert W (2024) Incorporating Qigong into a Western Medical Practice: A Study in Artificial Intelligence, *Biomedical Journal of Scientific & Technical Research* 55(5): 47401-47405.
55. McGee Robert W (2024) Incorporating Baduanjin into a Western Medical Practice: A Study in Artificial Intelligence and Traditional Chinese Medicine (TCM). *Biomedical Journal of Scientific & Technical Research* 56(1): 47739-47744.
56. McGee Robert W (2024) Incorporating Artificial Intelligence and Traditional Chinese Medicine (TCM) into a Western Medical Practice: A Case Study. *Biomedical Journal of Scientific & Technical Research* 56(3): 48149-48154.
57. McGee Robert W (2024) Using Chinese Herbal Medicine to Treat Cancer Patients: A Study Incorporating Artificial Intelligence. *Biomedical Journal of Scientific & Technical Research* 56: 48647-48655.
58. McGee Robert W (2023) Using ChatGPT to Conduct Literature Searches: A Case Study.
59. McGee Robert W (2023) Using ChatGPT and Bing Image Creator to Create Images of Martial Artists: An Application of Artificial Intelligence to Create Art.
60. McGee Robert W (2023) Using Artificial Intelligence to Create Art: An Experimental Study Using Martial Arts Examples.
61. McGee Robert W (2023) Don't Trust ChatGPT: A Case Study of a Defective Research Tool.
62. McGee Robert W (2023) Is Chat GPT Biased against Conservatives? An Empirical Study, p. 1-19.
63. McGee Robert W (2024) Are Chatbots Politically Biased? Four Case Studies.
64. McGee Robert W (2023) Is ESG a Bad Idea? The ChatGPT Response.
65. McGee Robert W (2023) Ethics Committees Can Be Unethical: The Chat GPT Response.
66. McGee Robert W (2023) Is It Possible to Be an Affirmative Action Employer and an Equal Opportunity Employer at the Same Time? A ChatGPT Answer.
67. McGee Robert W (2023) Gender Discrimination Arguments and Non Sequiturs: A ChatGPT Essay. 25: 1-8.
68. McGee Robert W (2023) Do Institutional Review Boards (IRBs) Violate the Rights of Free Speech and Press? A Study of Artificial Intelligence and Philosophy 28: 1-14.
69. McGee Robert W (2023) Are Diversity, Equity and Inclusion (DEI) Policies Unconstitutional? A ChatGPT Study. p. 1-12.
70. McGee Robert W (2023) Comparing Gab's AI Image Generator to Microsoft Bing's Image Maker: An Experimental Study. p. 1-83.
71. McGee Robert W (2023) Sex, Politics and Artificial Intelligence: A Comparison of the Gabby and Bing Image Creators. Working Paper.
72. Williams Sam (2024) The History of Tai Chi: From Ancient China to Modern-Day Practice.
73. Tai Chi Basics (n.d.). Tai Chi Origin and Tai Chi History – Bodhidharma to Modern Tai Chi Legends. Tai Chi Basics.
74. Wikipedia (2024) Tai Chi.
75. Nordqvist Joseph (2023) What are the health benefits of tai chi? *Medical News Today*.
76. Wikipedia (2024) History of qigong.
77. Lotus Buddhas (2023) What is Qigong? History, Principles and Benefits. Lotus Buddhas.
78. Holden Qi Gong (2022) The History of Qi Gong. Holden Qi Gong.

79. (2024) Wikipedia. Qigong.
80. (2024) Britannica T Editors of Encyclopaedia (2024) traditional Chinese medicine. Encyclopedia Britannica.
81. National Library of Medicine (n.d.). Traditional Chinese Medicine.
82. Gu S, Pei J (2017) Innovating Chinese Herbal Medicine: From Traditional Health Practice to Scientific Discovery. *Frontiers in Pharmacology* 8: 381.
83. Rock Andrea (2016) Tai Chi Benefits Your Heart. *Consumer Reports*.
84. Corliss Julie (2023) For mellow movement that helps your heart, try tai chi. *Harvard Heart Letter*.
85. Helmer Jodi (2024) Tai Chi and Qi Gong. *WebMD*.
86. Brazier Yvette (2016) Chinese exercise is good for the heart. *Medical News Today* March 10.
87. Wang XQ, Pi YL, Chen PJ, Liu Y, Wang R, et al. (2016) Traditional Chinese Exercise for Cardiovascular Diseases: Systematic Review and meta-Analysis of Randomized controlled Trials. *Journal of the American Heart Association* 5(3): e002562.
88. (2023) Harvard Medical School. Looking for a mellow form of exercise? Try tai chi. *Harvard Health Publishing*.
89. Rock Andrea (2016) Tai Chi Benefits Your Heart. *Consumer Reports*.
90. *Medical News Today* (n.d.). Chinese exercise is good for the heart.
91. Holden Qi Gong (2023) How to lower cholesterol naturally: Heal your body naturally with qi gong. *Holden Qi Gong*.
92. Kseny (2019) 10 Minute Qigong Routine to Start Your Day: Qigong for Beginners.
93. Holden Qi Gong (2022) Integral Taichi Qigong 40 Minute Daily Routine (with Full explanations).
94. Zhao Wang (n.d.). *China-Lifestyle-Tai Chi*. Getty Images.
95. Yaneff Jon (2018) 13 Amazing Chinese Herbs to Lower Cholesterol. *Doctors Health Press*.
96. Mendicino Siobhan (2023) The 10 Best Herbs for Lowering Cholesterol. *Botanical Institute*.
97. *ActiveHerb* (2018) Got High Cholesterol? Are Chinese Herbs a Viable Alternative to Statins?
98. Song Yi (n.d.). *Acupuncture and Traditional Chinese Medicine for Healthy Cholesterol*. Holli Balance Well-Being Center.
99. Guo M, Liu Y, Gao ZY, Shi DZ (2014) Chinese Herbal Medicine on Dyslipidemia: Progress and Perspective. *Evidence-Based Complementary and Alternative Medicine* 2014: 163036.
100. Liu ZL, Liu JP, Zhang AL, Wu Q, Ruan Y, et al. (2011) Chinese herbal medicines for hypercholesterolemia. *Cochrane Database of Systematic Reviews* 7: CD008305.
101. Rauf A, Akram M, Anwar H, Muhammad Daniyal, Naveed Munir, et al. (2022) Therapeutic potential of herbal medicine for the management of hyperlipidemia: latest updates. *Environ Sci Pollut Res* 29: 40281-40301.
102. Wong AR, Yang AWH, Li M, Hung A, Gill H, et al. (2022) The Effects and Safety of Chinese Herbal Medicine on Blood Lipid Profiles and Placebo-Controlled Weight-Loss Trials: A Systematic Review and Meta-Analysis. *Evidence-Based Complementary and Alternative Medicine* 22: 1368576.
103. Ming Guo, Yue Liu, Zhu-Ye Gao, Da-zhuo Shi (2014) "Chinese Herbal Medicine on Dyslipidemia: Progress and Perspective". *Evidence-Based Complementary and Alternative Medicine* 2014: 163036.
104. (2021) *Cleveland Clinic*. What You Should Know About Chinese Herbs. *Cleveland Clinic*.
105. *Johns Hopkins* (n.d.). What are herbal supplements?
106. (2024) *Wikipedia*. List of herbs with known adverse effects.
107. Hillo Ansley (2020). 9 of the World's Most Popular Herbal Medicines. *Healthline*.
108. (2018) *ActiveHerb*. Got High Cholesterol? Are Chinese Herbs a Viable Alternative to Statins?
109. Song Yi (n.d.). *Acupuncture and Traditional Chinese Medicine for Healthy Cholesterol*. Holli Balance Well-Being Center.
110. Yaneff Jon (2018) 13 Amazing Chinese Herbs to Lower Cholesterol. *Doctors Health Press*.
111. (2023) *Mendicino Siobhan*. The 10 Best Herbs for Lowering Cholesterol. *Botanical Institute*, January 2.
112. *OZTCM* (n.d.). 6 best Chinese herbs to lower cholesterol.
113. *PubMed* (2024). <https://pubmed.ncbi.nlm.nih.gov/>.
114. Guo S, Xu Y, Qin J, Chen Y, You Y, et al. (2021) Effect of tai chi on glycaemic control, lipid metabolism and body composition in adults with type 2 diabetes: A meta-analysis and systematic review. *J Rehabil Med* 53(3): jrm00165.
115. Lee EN (2004) [The effects of tai chi exercise program on blood pressure, total cholesterol and cortisol level in patients with essential hypertension]. *Taehan Kanho Hakhoe Chi* 34(5): 829-837.
116. Lee MS, Lee MS, Kim HJ, Choi ES (2004) Effects of qigong on blood pressure, high-density lipoprotein cholesterol and other lipid levels in essential hypertension patients. *Int J Neurosci* 114(7): 777-786.
117. Liu X, Miller YD, Burton NW, Brown WJ (2010) A preliminary study of the effects of Tai Chi and Qigong medical exercise on indicators of metabolic syndrome, glycaemic control, health-related quality of life, and psychological health in adults with elevated blood glucose. *Br J Sports Med* 44(10): 704-709.
118. Lu WA, Chen YS, Wang CH, Kuo CD (2020) Effect of a Single Session of Tai Chi Chuan Practice on Glucose and Lipid Metabolism and Related Hormones. *Life (Basel)* 10(8): 145.
119. Pan XH, Mahemuti A, Zhang XH, Wang YP, Hu P, et al. (2016) Effect of Tai Chi exercise on blood lipid profiles: a meta-analysis of randomized controlled trials. *J Zhejiang Univ Sci B* 17(8): 640-648.
120. Song G, Chen C, Zhang J, Chang L, Zhu D, et al. (2018) Association of traditional Chinese exercises with glycemic responses in people with type 2 diabetes: A systematic review and meta-analysis of randomized controlled trials. *J Sport Health Sci* 7(4): 442-452.
121. Tao S, Li Z (2023) Effects of qigong exercise on cardiovascular risk factors in patients with metabolic syndrome: A systematic review and meta-analysis. *Front Physiol* 14: 1092480.
122. Tsai JC, Wang WH, Chan P, Lin LJ, Wang CH, et al. (2003) The beneficial effects of Tai Chi Chuan on blood pressure and lipid profile and anxiety status in a randomized controlled trial. *J Altern Complement Med* 9(5): 747-754.
123. Vera FM, Manzaneque JM, Maldonado EF, Carranque GA, Cubero VM, et al. (2007) Biochemical changes after a qigong program: lipids, serum enzymes, urea, and creatinine in healthy subjects. *Med Sci Monit* 13(12): CR560-CR566.
124. Wang C, Zhang P, Yang Y (2022) Effect of traditional Chinese exer-

- cise on abnormal lipid metabolism in patients with atherosclerosis: a protocol for meta-analysis of randomized controlled trials. *BMJ Open* 12(6): e059174.
125. Wang CX, Xu DH (1989) [Influence of qigong therapy upon serum HDL-C in hypertensive patients]. *Zhong Xi Yi Jie He Za Zhi* 9(9): 543-4, 516.
126. Wu S, Wang L, He Y, Shi F, Zhuang H, et al. (2023) Effects of different mind-body exercises on glucose and lipid metabolism in patients with type 2 diabetes: A network meta-analysis. *Complement Ther Clin Pract* 53: 101802.
127. Xinzheng W, Fanyuan J, Xiaodong W (2022) The effects of Tai Chi on glucose and lipid metabolism in patients with diabetes mellitus: A meta-analysis. *Complement Ther Med* 71: 102871.
128. Yang H, Wu X, Wang M (2018) Effect of conventional medical treatment plus Qigong exercise on type 2 diabetes mellitus in Chinese patients: A Meta-analysis. *J Tradit Chin Med* 38(2): 167-174.
129. Zhao H, Teng J, Song G, Fu X, Pan X, et al. (2023) The optimal exercise parameters of Tai Chi on the effect of glucose and lipid metabolism in patients with type 2 diabetes mellitus: A meta-analysis. *Complement Ther Med* 79: 102995.

ISSN: 2574-1241

DOI: 10.26717/BJSTR.2024.57.008943

Robert W McGee. Biomed J Sci & Tech Res



This work is licensed under Creative Commons Attribution 4.0 License

Submission Link: <https://biomedres.us/submit-manuscript.php>



Assets of Publishing with us

- Global archiving of articles
- Immediate, unrestricted online access
- Rigorous Peer Review Process
- Authors Retain Copyrights
- Unique DOI for all articles

<https://biomedres.us/>