

Study reveals tai chi benefits for sleep quality in advanced lung cancer patients

April 25 2024



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A research team from the School of Nursing, LKS Faculty of Medicine of the University of Hong Kong (HKUMed), found positive effects of tai chi and aerobic exercise on sleep quality, psychological well-being,

physical function, and circadian rhythm in patients with advanced lung cancer.

The study, conducted over a four-year period, discovered additional advantages in terms of improving one-year survival rates and reducing fatigue.

The research has demonstrated remarkable potential of tai chi as a non-pharmacological intervention for improving survival in advanced [lung cancer](#) patients. It emphasizes the importance of integrating physical activity, particularly tai chi, into the treatment plan to enhance the holistic well-being of this vulnerable population. The study was [published](#) in *JAMA Oncology*.

Lung cancer has been the most prevalent cancer and the leading cause of cancer death in Hong Kong since 2019. Patients with advanced lung cancer often experience sleep disturbances and associated psychological symptoms, which impact their overall survival and quality of life. Pharmacological interventions can induce side effects that significantly worsen cancer-related symptoms.

To address these issues, HKUMed research team explored non-pharmacological interventions, with physical exercise being a promising option due to its safety, affordability, and diverse benefits.

The research team conducted a meta-analysis to examine the effects of aerobic and mind-body exercises, two widely recognized forms of physical exercises, which differ in intensity and modality. The study showed significant enhancement in [sleep quality](#) among cancer patients experiencing poor sleep. However, the comparative effects of these exercises in patients with advanced lung cancer remain unclear.

Research methods and findings

Between December 2018 and September 2022, HKUMed research team recruited 226 patients with advanced lung cancer in three public hospitals in Hong Kong. They were randomly assigned to one of the three groups: tai chi, [aerobic exercise](#), or a self-management control group. The tai chi group attended classes twice a week for 16 weeks. The aerobic exercise group attended classes twice a month over the same 16-week period, engaging in activities such as treadmill walking, stationary bike riding, and resistance exercises.

The study assessed multiple factors, including subjective sleep quality, objective sleep parameters, psychological distress, fatigue, health-related quality of life, physical function, circadian rhythm, and one-year survival rates among advanced lung cancer patients. Assessments were conducted before the intervention classes, at the end of the 16-week intervention, and at week 52.

The results revealed that both the tai chi and aerobic exercise groups demonstrated a significant improvement in sleep quality, anxiety, depression, cardiorespiratory function, physical function, step count, and circadian rhythm at both week 16 and week 52 than the control group. Tai chi demonstrated superior benefits over aerobic exercise in terms of sleep quality, fatigue reduction, and balance.

The study found a remarkable 65% lower risk of mortality in the tai chi group compared to the control group, suggesting that engaging in tai chi may potentially offer better survival for patients with advanced lung cancer.

Led by Research Assistant Professor Dr. Naomi Takemura and supervised by Professor Chia-Chin Lin, both from the School of Nursing at HKUMed, this three-arm randomized controlled trial represents the largest study of its kind conducted to date, focusing specifically on patients with advanced lung cancer. The findings carry implications for

the field of cancer care and highlight the potential benefits of tai chi, compared to conventional exercise.

"Tai chi's emphasis on the mind-body connection offers a [holistic approach](#) that goes beyond physical exercise alone. The meditative and mindful aspects of tai chi may help patients cope with psychological distress, reduce anxiety, and enhance their overall quality of life and one-year survival rate," said Dr. Naomi Takemura.

The study opens new avenues for supportive care in cancer management and highlights the importance of a multidimensional approach to address cancer symptoms. By incorporating tai chi into the treatment plan, health care providers can offer a safe, affordable, and potentially effective approach to alleviate the symptom burden and enhance the overall well-being of patients.

More information: Naomi Takemura et al, Effectiveness of Aerobic Exercise and Tai Chi Interventions on Sleep Quality in Patients With Advanced Lung Cancer, *JAMA Oncology* (2023). [DOI: 10.1001/jamaoncol.2023.5248](#)

Provided by The University of Hong Kong

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