Exercise as therapy: its surprising potential to treat people with multiple chronic conditions

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Hundreds of millions of people of all ages worldwide live with two or more chronic conditions—commonly defined as multimorbidity. Those living with it are found to have poorer physical and mental health, higher risk of being admitted to hospital, and higher risk of dying prematurely

compared to people with only one chronic condition.

Given that the number of people living with multimorbidity is only expected to rise in the future, finding better treatments is considered the next major health priority. But despite multimorbidity being a leading cause of disability, research on treatments are still in its infancy. Few studies have investigated treatment options—and unfortunately the results of these studies most often offer negligible improvements.

People with multimorbidity want treatments that will improve their physical, mental, emotional, and social health. Our research found that exercise may actually be a surprising treatment for those living with multimorbidity, and offer many of these improvements patients want.

Currently, multimorbidity is managed by treating each chronic conditions separately using available medicines. However, this might not reduce symptoms sufficiently, and can have many adverse health effects. Many people consult several health care providers and also end up taking multiple drugs (often at least one for each condition) which carries a risk of adverse events and can be inconvenient and unsatisfactory for patients.

Exercise as medicine

Research has shown exercise is an effective treatment for 26 chronic conditions, including osteoarthritis, depression and type 2 diabetes. Research also shows exercise could potentially prevent 35 chronic conditions from developing.

Thanks to its overall effects on health (such as lowering blood pressure, improving joint health and cognitive function, exercise therapy can benefit a range of chronic conditions. It also has a lower risk of negative side effects compared to pharmacological treatments. At the same time,

exercise requires physical effort, and like pharmacological treatments, the effects will diminish if you stop exercising.

But could exercise therapy benefit people with multiple chronic conditions as well? This is what our recent review aimed to investigate.

We assessed the effect of exercise therapy on the physical and mental health of people with at least two of the following chronic conditions: osteoarthritis of the knee or hip, hypertension, type 2 diabetes, depression, heart failure, ischemic heart disease, and chronic obstructive pulmonary disease. We found 23 studies that looked at adults aged 50 to 80 years old.

The exercise therapy interventions used in the studies were at least partially supervised by a physiotherapist or an exercise physiologist. Most lasted 12 weeks on average and exercise was performed two to three times a week, starting from low intensity and progressing to moderate to high intensity. The exercise therapies included were aquatic exercise, strength training, aerobic training and tai chi.

Our review showed exercise therapy improved quality of life and reduced anxiety and depression symptoms. The benefits were higher in younger patients and patients who had higher depression symptoms before starting exercise therapy. This highlights that people with severe depression—often considered ineligible for exercise due to their depression severity—may benefit highly from exercise therapy.

Patients who participated in exercise therapy were also able to walk longer. Those taking part walked on average 43 meters more than those not taking part in the exercise interventions, over six minutes. This improvement appears to be important for the patient and it reduced their disability.

Exercise therapy also didn't increase risk of non-serious side effects, such as knee, arm, or back pain, or falls and fatigue. What's more, it reduced the risk of hospitalization, pneumonia, and extreme fatigue.

As such, exercise could be a safe and effective therapy instead of increasing drug prescription in people with multiple chronic conditions. The benefits were similar across all the combinations of chronic conditions included in our study. However these findings need to be confirmed in future trials to have a more definitive answer.

Together with patients and healthcare professionals, we are developing and testing an exercise therapy and self-management program in the MOBILIZE project. This trial will help us understand whether personalized exercise therapy and self-management is effective in managing and treating multimorbidity.

In the meantime, people with multimorbidity can improve mental and physical health by exercising two to three times a week. Aerobic workouts, strength training or a combination of the two can promote similar health benefits, regardless of the conditions a person live with. However, it's important that the exercise therapy sessions are supervised and that the intensity of the session progresses based on patient capabilities.

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