**[Haroon Siddique](https://www.theguardian.com/profile/haroonsiddique)**

Tuesday 9 August 2016 23.30 BST

WHO's recommended level of exercise too low to beat disease – study

Bigger reductions in risk of five common chronic diseases only achievable with five to seven times more activity, research finds

Higher levels of physical activity can achieve bigger reductions in the risk of five common chronic diseases, but only if people engage in levels far above the recommended minimum exertion, [a study has suggested](http://www.bmj.com/content/354/bmj.i3857).

An analysis of 174 studies found that gardening, household chores and more strenuous activities, when done in sufficient quantities, were strongly associated with a lower risk of stroke and of contracting breast and bowel cancer, [diabetes](https://www.theguardian.com/society/diabetes)and heart disease.

But researchers from the US and Australia concluded that for the biggest risk reductions, total physical activity per week should be five to seven times the minimum level recommended by the [World Health Organisation](https://www.theguardian.com/world/world-health-organisation).

At present, the WHO recommends that people conduct at least 600 metabolic equivalent minutes (Met minutes) of physical activity – the equivalent of 150 minutes a week of brisk walking or 75 minutes of running. But the study suggested that most health gains were achieved at between 3,000 and 4,000 Met minutes a week.

The lead author, Hmwe Kyu from the University of Washington, said: “Major gains occurred at lower levels of activity. The decrease in risk was minimal at levels higher than 3,000 to 4,000 Met minutes per week.

“A person can achieve 3,000 Met minutes per week by incorporating different types of physical activity into the daily routine – for example, climbing stairs for 10 minutes, vacuuming for 15 minutes, [gardening](https://www.theguardian.com/lifeandstyle/2016/apr/10/gardening-is-good-for-physical-and-mental-health) for 20 minutes, running for 20 minutes, and walking or cycling for transportation for 25 minutes, on a daily basis, would together achieve about 3,000 Met minutes a week.

Analysing studies published between 1980 and 2016, the researchers found that the pattern highlighted was most prominent for coronary heart disease and diabetes, and least prominent for breast cancer. For example, individuals with a total activity level of 600 Met minutes per week had a 2% lower risk of diabetes, compared with those reporting no physical activity.

An increase from 600 to 3,600 Met minutes reduced the risk by an additional 19%. The same amount of increase yielded much smaller returns at higher levels of activity.

As the meta-analysis, published in the BMJ on Tuesday, is based on observational research, it cannot draw conclusions about cause and effect, but the authors say their findings have important public policy implications.

“With population ageing, and an increasing number of cardiovascular and [diabetes](https://www.theguardian.com/global-development/2016/apr/06/who-world-health-organisation-healthier-diets-surge-in-diabetes) deaths since 1990, greater attention and investments in interventions to promote physical activity in the general public are required,” they write.

“More studies using the detailed quantification of total physical activity will help to find a more precise estimate for different levels of physical activity.”

In a linked editorial, researchers at the University of Strathclyde and the International Prevention Research Institute in Lyon write that the study has importance for the prevention of chronic diseases, but point out: “It cannot tell us whether risk reductions would be different with short duration intense physical activity or longer duration light physical activity.”

Dr Oliver Monfredi, a clinical lecturer in cardiovascular medicine at Manchester University, praised the research.

“What is clear, in summary, is that in terms of protecting oneself from the development of these five common and potentially life-limiting illnesses, undertaking any level of exercise is protective, more is better, and should be encouraged by healthcare professionals, politicians and charities alike, to decrease the burden of these debilitating illnesses in society today,” he said.

Simon O’Neill, the director of health intelligence at [Diabetes UK](https://www.diabetes.org.uk/), said: “It’s important to remember that all activity counts and a good way to increase your physical activity is to simply incorporate it into your daily life – for instance, getting off the bus a stop or two earlier, or walking to the shops. Also try to discover a physical activity you enjoy doing such as dancing, cycling or gardening. This will make it far easier for you to stick with it, as it will become part of your routine.”