

Menopausal hormone therapy linked to having a healthier heart

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Women who use menopausal hormone therapy appear to have a heart structure and function that is linked to a lower risk of heart failure, according to a study led by Queen Mary University of London.

The effect of menopausal [hormone](#) therapy (MHT), previously known as [hormone replacement therapy](#), on cardiovascular health in post-menopausal [women](#) has been controversial and unclear. Extensive data had suggested MHT to have a protective effect on the heart, leading to MHT being routinely prescribed for prevention of heart disease, but subsequent studies to confirm this have varied in their results.

To tackle this longstanding question, researchers have now used data from UK Biobank - a database of health questionnaire data, biological samples and physical measurements from over 500,000 people. UK Biobank holds cardiovascular MRI data - the gold standard for imaging and analysing heart structure and function - which could help overcome the lack of detailed data on the effects of MHT on cardiovascular health.

Lead author Dr Mihir Sanghvi, from the team of scientists led by Professor Steffen Petersen at Queen Mary University of London, said: "This is the first study to look at the relationship between the use of menopausal hormone therapy and subtle changes in the structure and function of the heart, which can be predictors of future heart problems. This is an important issue because there are 2.3 million women using menopausal hormone therapy in the UK today and current evidence of its effect on [heart health](#) is conflicted and controversial.

"Using UK Biobank data, we've now been able to show that the use of menopausal hormone therapy is not associated with any adverse changes to the heart's structure and function, and may be associated with some healthier heart characteristics."

The study, published in the journal *PLOS ONE* and funded by the British Heart Foundation, examined the left ventricular (LV) and left atrial (LA) structure and function in 1,604 post-menopausal women, who were free of known cardiovascular disease, and 32 per cent of whom had used MHT for at least three years.

The researchers found that MHT use was not associated with adverse changes in cardiac structure and function. Indeed, significantly smaller LV and LA chamber volumes were observed, which have been linked to favourable cardiovascular outcomes, including lower mortality and risk of heart failure, in other settings.

They also looked at LV mass - one of the most important characteristics observed in cardiovascular imaging, with increases in LV mass predicting a higher incidence of cardiovascular events and mortality. Importantly, they found no significant difference in LV mass between the two groups of women.

Ashleigh Doggett, Senior Cardiac Nurse at the British Heart Foundation, which funded the research, said: "The effect of [menopausal hormone therapy](#) on heart health is still unknown, with previous research showing both positive and negative effects on the heart. This study adds to our understanding by suggesting that the treatment does have a positive effect on the heart's structure, which should give reassurance to women taking the treatment.

"However, women shouldn't take MHT specifically to improve their [heart health](#), as this study doesn't consider all of the ways this [therapy](#)

affects our [cardiovascular health](#). For instance, there is some evidence to suggest that MHT may increase your risk of blood clots, meaning more research is still needed to get a complete picture.

"For most menopausal women - especially those under the age of 60 - the benefits of taking HRT outweigh any potential risks. However, each woman's situation is different so please speak to your GP about whether HRT is appropriate for you."

More information: 'The impact of menopausal hormone therapy (MHT) on cardiac structure and function: Insights from the UK Biobank imaging enhancement study. Mihir M. Sanghvi, Nay Aung, Jackie A. Cooper, José Miguel Paiva, Aaron M. Lee, Filip Zemrak, Kenneth Fung, Ross J. Thomson, Elena Lukaschuk, Valentina Carapella, Young Jin Kim, Nicholas C. Harvey, Stefan K. Piechnik, Stefan Neubauer, Steffen E. Petersen. *PLOS ONE*.

Provided by Queen Mary, University of London

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