

Viagra protects the heart beyond the bedroom

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Viagra could be used as a safe treatment for heart disease, finds new research published today in the open access journal *BMC Medicine*. The study reveals that long-term daily treatment of Viagra can provide protection for the heart at different stages of heart disease, with few side effects.

Phosphodiesterase-5 inhibitor (PDE5i) is the main ingredient in Viagra and other drugs commonly used to treat [erectile dysfunction](#). The inhibitor blocks the enzyme PDE5, which prevents relaxation of smooth muscle tissue. The presence of PDE5 in the heart has led to previous research on whether the inhibitor could treat non-urological conditions. But despite some promising results, the studies were largely based on animals and the cardioprotective effects of PDE5i remained unclear.

Scientists from the Sapienza University of Rome carried out a meta-analysis of [randomized controlled trials](#) by searching for articles published between January 2004 and May 2014 to test the effectiveness of PDE5i in providing cardiac protection, and to find out whether it was well-tolerated and safe. They identified 24 suitable trials for analysis from four research databases: MEDLINE, EMBASE, Cochrane Library and SCOPUS. The trials involved 1622 patients from mixed populations who were treated with PDE5i or a placebo.

For the first time, the scientists conducted a parallel analysis of the effects of the inhibitor on the size and shape of the heart and its performance.

The analysis shows that PDE5i prevented the heart increasing in size and changing shape in patients suffering from left ventricular hypertrophy, a condition which causes thickening of the muscles in the left ventricle. The inhibitor also improved heart performance in all patients with different [heart conditions](#), with no negative effect on the patients' blood pressure.

Lead author of the study, Andrea Isidori said: "We found that the main ingredient in Viagra can be used as an effective, safe treatment for several patients with [heart disease](#). Large clinical trials are now urgently needed to build on these encouraging findings."

The study concludes that the inhibitor could be reasonably administered to men who suffer from heart muscle thickening and early-stage [heart failure](#). However, since most of the studies included in the meta-analysis were on men, the researchers suggest the next step should be a larger trial on sex-specific long-term responses.

More information: *BMC Medicine*
www.biomedcentral.com/1741-7015/12/185

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