

# Tricyclic anti-depressants linked to increased risk of heart disease

December 1 2010

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Research that followed nearly 15,000 people in Scotland has shown that a class of older generation anti-depressant is linked to an increased risk of cardiovascular disease (CVD). The study showed that tricyclic anti-depressants were associated with a 35% increased risk of CVD, but that there was no increased risk with the newer anti-depressants such as the selective serotonin reuptake inhibitors (SSRIs). The study is published online today (Wednesday 1 December) in the *European Heart Journal* and was led by researchers from University College London (UCL).

The prospective study, which followed 14,784 men and women without a known history of CVD, is the first to look at the risks associated with the use of anti-depressants in a large, representative sample of the general population. Until now, there have been uncertain and conflicting findings from earlier studies that have looked at the link between anti-depressant use and the risk of CVD.

Dr Mark Hamer, Senior Research Fellow in the Department of Epidemiology and Public Health at UCL (London, UK), said: "Our study is the first to contain a representative sample of the whole community, including elderly and unemployed participants, men and women, etc. Therefore, our results can be generalised better to the wider community. The majority of previous work in this area has focused on clinical cardiac patients, so studies in healthy participants are very important. Given that anti-depressants, such as SSRIs, are now prescribed not only for depression, but for a wide range of conditions such as back pain, headache, anxiety and sleeping problems, the risks associated with anti-

depressants have increasing relevance to the general population."

Dr Hamer and his colleagues used data from the Scottish Health Survey, which collects information from the general population every three to five years. They combined data from separate surveys in 1995, 1998 and 2003 in adults aged over 35 and linked them with records on hospital admissions and deaths, with follow-up until 2007. Anyone with a history of clinically confirmed CVD was excluded.

During the surveys, interviewers visited eligible households and asked participants a range of questions on demographics and lifestyle, such as smoking, alcohol intake and physical activity, and measured their height and weight. They assessed psychological distress using a questionnaire (the General Health Questionnaire) that enquires about symptoms of anxiety and depression in the last four weeks. In a separate visit, nurses collected information on medical history, including psychiatric hospital admissions, and medication, and took blood pressure readings.

During an average of eight years follow-up there were 1,434 events related to CVD, of which 26.2% were fatal. Of the study participants, 2.2%, 2% and 0.7% reported taking tricyclic anti-depressants, SSRIs or other [antidepressants](#) respectively. After adjusting for various confounding factors, including indicators of mental illness, the researchers found there was a 35% increased risk of CVD associated with tricyclic anti-depressants. The use of SSRIs was not associated with any increased risk of CVD, nor did the researchers find any significant associations between anti-depressant use and deaths from any cause.

Dr Hamer said: "Our findings suggest that there is an association between the use of tricyclic anti-depressants and an increased risk of CVD that is not explained by existing mental illness. This suggests that there may be some characteristic of tricyclics that is raising the risk. Tricyclics are known to have a number of side effects; they are linked to

increased blood pressure, weight gain and diabetes and these are all risk factors for CVD."

He continued: "It is important that patients who are already taking anti-depressants should not cease taking their medication suddenly, but should consult their GPs [primary care physicians] if they are worried. There are two important points to be made. First, tricyclics are the older generation of anti-depressant medicines and we found no excess risk with the newer drugs (SSRIs). Secondly, people taking the anti-depressants are also more likely to smoke, be overweight, and do little or no physical activity – by giving up smoking, losing weight, and becoming more active a person can reduce their risk of CVD by two to three-fold, which largely out-weighs the risks of taking the medications in the first place. In addition, physical exercise and weight loss can improve symptoms of depression and anxiety.

"Our findings suggest that clinicians should be cautious about prescribing anti-depressants and should also consider lifestyle advice, such as smoking cessation, exercise and sensible alcohol intake."

**More information:** "Anti-depressant medication use and future risk of cardiovascular disease: the Scottish Health Survey". European Heart Journal. [doi:10.1093/eurheartj/ehq438](https://doi.org/10.1093/eurheartj/ehq438)

Provided by European Society of Cardiology

Citation: Tricyclic anti-depressants linked to increased risk of heart disease (2010, December 1) retrieved 9 April 2024 from <https://medicalxpress.com/news/2010-12-tricyclic-anti-depressants-linked-heart-disease.html>

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