

Prescribing guidelines not always followed for patients on cholesterol-lowering drug

May 4 2018, by Liane Topham-Kindley

New Zealand prescribers do not always follow guidelines when prescribing other medicines to patients taking simvastatin, according to University of Otago researchers from the Pharmacoepidemiology Research Network.

Simvastatin is a cholesterol-lowering drug that is widely used in New Zealand to prevent major cardiovascular events such as heart attacks and stroke. However, some medicines can inhibit the activity of the enzyme (CYP3A4) that metabolises [simvastatin](#) and this can lead to high levels of simvastatin in the blood, which in turn increases the risk of side effects.

Prescribing guidelines state that some medicines which inhibit CYP3A4 should not be prescribed to people taking simvastatin – these are "contraindicated medicines". And, some medicines should only be used with caution and careful management of the simvastatin dose – these are known as "use-with-caution medicines".

In the nationwide study just published in the *New Zealand Medical Journal*, the researchers found that despite the existence of prescribing guidelines and patient management software – which alerts prescribers to potential drug interactions—11 per cent of [patients](#) were dispensed a contraindicated medicine during the first two years of simvastatin use and 16 per cent were dispensed a use-with-caution medicine.

These proportions increased over time and by seven years, 17 per cent of

patients had been dispensed a contraindicated medicine and 26 per cent had been dispensed a use-with-caution medicine.

In the majority of cases, the prescriber of simvastatin and the contraindicated or use-with-caution medicine were the same.

One of the study's authors, Dr. Lianne Parkin of the Department of Preventive and Social Medicine, says a large number of patients received a contraindicated or use-with-caution [medicine](#) on more than one occasion.

"These co-prescribing events were not always isolated incidents – for many patients they occurred more than once."

The researchers also found that substantial proportions of the patients co-prescribed use-with-caution medicines were taking simvastatin at a higher daily dose than recommended at the time of the dispensing.

Co-investigator, Joshua Quon, a student at the Dunedin School of Medicine, says it was important to undertake this research because overseas studies had found concerning levels of use of CYP3A4 inhibitors in people taking certain cholesterol-lowering drugs, but it was not known what was happening in New Zealand.

Further work is required to explore and address the reasons for such co-prescribing, he says.

The study was based on anonymised national pharmaceutical dispensing and health data for 349,371 people who started taking simvastatin between January 2006 and December 2013 and was funded by a Strategic Research Grant from the Department of Preventive and Social Medicine and the Phyllis Paykel Memorial Summer Scholarship.

Provided by University of Otago

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