Background The few published studies investigating the role of driver sleepiness in road crashes in low and middle-income countries have largely focused on heavy vehicles.

Objective We investigated the contribution of driver sleepiness to four-wheeled motor vehicle crashes in Viti Levu, Fiji resulting in death or hospital admission.

Methods The population-based case control study included 131 motor vehicles involved in crashes where at least one person died or was hospitalised (cases) and 752 motor vehicles identified in roadside surveys (controls) in Viti Levu. Drivers or their proxies (study informants) completed an interviewer-administered questionnaire ascertaining data on vehicle, driving, and personal characteristics including sleepiness while driving, and factors associated with reduced quality and quantity of sleep.

Results There was a six-fold increase in the odds of injury-involved crashes for vehicles where the drivers reported they were sleepy, had difficulty staying awake, or were not fully alert (OR 5.7, CI 2.7 to 12.3); and those who reported less than 6 h of sleep during the previous 24 h (OR 5.9, CI 1.7 to 20.9). The population attributable risk for crashes associated with driving while sleepy or less alert was 34.

Significance Driver sleepiness is an important contributor to the burden of four-wheeled motor vehicle crashes in Fiji. The research highlights the need for evidence-based strategies to reduce the contribution of this poorly characterised risk factor in less resourced settings.

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[1]J Herman*, [1]S Ameratunga, [2]B Kafoa, [2]I Wainiqolo, [1]E Robinson, [2]E McCaig, [3]J Connor, [1]R Jackson. *[1]Section of Epidemiology and Biostatistics, School of Population Health, University of Auckland, Private Bag 92019, Auckland, New Zealand; [2]College of Medicine, Nursing and Health Sciences, Fiji National University, Suva, Fiji; [3]Department of Preventive and Social Medicine, University of Otago, Dunedin, New Zealand*