CRASH FATALITY RISK DIFFERENCES BETWEEN ACCESS AND NON-ACCESS CONTROLLED HIGHWAYS IN PAKISTAN: A LOW-INCOME COUNTRY

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Background Urbanisation around highways is frequent in Low- and Middle-Income Countries (LMICs) and can affect traffic safety negatively if it is inadequately-planned. Access control has shown to reduce significantly highway crashes in developed countries but explored to less extent in LMICs.

Aims/Objectives/Purpose The study aimed to compare crash risk differences between an access-controlled highway sections with that of non-access controlled sections in Pakistan.
Methods Using historical cohort design, crash fatality risk and pedestrian crash risks were compared between 397 km-long sections of access controlled Motorway 1&2 (M1&2) and 332-km-long non-access controlled road sections of N5 between cities of Attock and Lahore.

Results/Outcomes Approximately 47 persons died per billion vehicle-km travelled on both types of road sections, a rate over ten times higher than that observed in France on similar roads. Pedestrian crash risks were significantly higher on non-access controlled road sections compared with access controlled road sections (Risk ratio=3.43, p<0.001, attributable risk proportion=70.1%) suggesting that access control might reduce over two-thirds of pedestrian crashes on highways in Pakistan.

Significance/significance to Field High crash burden on highways indicated that vigorous efforts are required in legislating and enforcing international safety standards in Pakistan with regards to seatbelt or helmet use, vehicle checks, and educating safe road use to drivers and the population living around highways.