



## Road traffic injuries in shared bicycle riders in China

The internet-based bicycle sharing systems, widely implemented in China in late 2016, has proved effective in filling the so-called last mile traffic gap for city commuters. By July 2017, it was estimated that 16 million shared bicycles had been launched in China, with 106 million users.<sup>1</sup> In November 2017, we surveyed 2883 shared bicycle riders. On average, each respondent spent 43.9 min riding shared bicycles during the week before the survey.

During the past 12 months, 202 respondents reported 292 bicycle-related road traffic injuries. Regarding the most recent injury, 158 (78%) people had a minimal injury, 35 (17%) had an injury or rested for at least half day, seven (3%) were admitted to hospital, and two (1%) were disabled. Of the 202 injured respondents, the most injured sites were lower limbs (n=115) or upper limbs (n=43). Certain cycling experience or habits—ie, nervousness, parallel cycling, basket disorder, brake failure, and wheel slips—were associated with a higher risk of injury (odds ratio 1.60–1.96).

Bicycle share users tend to ride at a lower speed than do private bicycle riders because of the inflexible design of the bike, which is prone to reduce the risk and severity of crash.<sup>2</sup> We measured the average operational cycling speed for 205 shared cyclists on three bicycle ways in Hangzhou, eastern China, and found it to be 7.6 miles per h, which is lower than that of 30 private cyclists (8.7 miles per h). The bright colours of shared bicycle might be important in reminding pedestrians and motor vehicle drivers to increase awareness of and cautiousness towards cyclists. For example, 1584 (55%) of 2883 respondents believed that bicycle colour is crucial in preventing road injury. With an increasing number of shared

bicycles, the number of cyclists becomes higher and the cyclists are thus less likely to be injured according to the theory of safety in numbers.<sup>3</sup>

In the field survey, we observed that 70 (34%) of 205 shared bicycle riders have potentially dangerous behaviors, such as parallel cycling (n=36), one-hand driving (n=30), and wearing headphones (n=28).

Essential safety education as well as increased riding skill training should be provided for all users.

We declare no competing interests.

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