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Alcohol-related driving in China: Countermeasure implications of research conducted in two cities

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ABSTRACT

Objective: Drunk driving (blood alcohol concentration (BAC) 80 mg/100 ml) was upgraded to become a criminal offence under China's Criminal Law in May 2011. While this had a major road safety benefit, there was still a high level of alcohol related crashes and fatalities. This paper develops recommendations based on a programme of research undertaken in 2012 that examined the perceptions of general motor vehicle drivers, convicted drunk driving offenders and traffic police about drinking and driving and law enforcement in the cities of Guangzhou and Yinchuan. Alcohol misuse problems were also explored using the Alcohol Use Disorders Identification Test (AUDIT). This paper integrates the findings to examine existing problems in alcohol management, law enforcement, education and rehabilitation and provides recommendations for addressing alcohol-related driving in China.

Methods: A multi-study cross-sectional research programme was conducted in two Chinese cities involving general drivers, drunk driving offenders and traffic police. In total, 16 traffic police officers were interviewed and 105 traffic police officers were surveyed. In addition, 207 drunk driving offenders in detention facilities and 802 general motor vehicle drivers were surveyed.

Results: Traffic police resources including human resources and facilities such as breathalysers were reported as insufficient in both cities. There were problems reported in the process of law enforcement, and shortcomings in police knowledge of factors involved in drink/drunk driving and in the practice of conducting breath alcohol testing (BAT). Knowledge about legal BAC levels and how to keep under the legal limit was very low among general motor vehicle drivers and drunk driving offenders. Proportions with alcohol misuse problems in the two driver groups were high, especially among offenders.

Conclusions: Recommendations to manage alcohol-related driving are proposed for the three groups of traffic police, general motor vehicle drivers and drunk driving offenders. In particular, traffic police resources need to be improved and further education provided to police on the general deterrence potential of BAT. There should be enhanced community education and publicity to improve knowledge of drink driving regulations and how to avoid breaking the law. Alcohol misuse problems should be addressed, particularly for drunk driving offenders.

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1. Introduction

Increasing motorisation in the context of the strong Chinese drinking culture means that alcohol-related driving has become a serious challenge for road safety in China (Wang et al., 2015). Historically there have been driver blood alcohol concentration (BAC)

limits that distinguish between 'drink driving' (20 mg/100 ml) and the more serious 'drunk driving' (80 mg/100 ml). In order to highlight the serious nature of alcohol-related driving, the Government amended China's Criminal Law to make drunk driving (BAC 80 mg/100 ml) a criminal offence in May 2011. On February 25, 2011, the 19th meeting of the 11th National People's Congress Standing Committee adopted the Amendment (VIII) to the Criminal Law of the People's Republic of China (Amendment Criminal Law (VIII), 2011). The Ministry of Public Security reports that during the first three years of this amended law, Chinese traffic

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police apprehended 1.274 million drink drivers and 0.222 million drunk driving offenders (May 1, 2011 to April 30, 2014). Numbers of both levels of offence decreased (by 18.7% and 42.7% respectively), compared with the same time period before the amended law (Transportation Management Bureau, 2014). In addition, it is reported that the rate of alcohol-related traffic crashes and fatalities in the first three years of the amended drunk driving law decreased 18.8% and 37.7% respectively, compared with the three years before the law changed. However, drinking and driving remains a problem and there are still a considerable number of alcohol-related driving offences occurring in China. There were 5254 alcohol-related traffic crashes in 2012 which resulted in 2228 fatalities and 5291 injuries and an estimated direct economic loss of 33 million RMB (approximately USD 5.3 million) (Traffic Management Bureau under Ministry of Public Security, 2013). A recent study that analysed National Disease Surveillance System (NDSS) data in Shandong Province found that, in the years 2011, 2012 and 2013, drinking and driving accounted for 26.61%, 25.26% and 18.45% of traffic fatalities, respectively. These rates were much higher than the rates of 4.02–4.8% reported for the same time periods by the Ministry of Public Security (Wang et al., 2015).

1.1. Police enforcement of drink driving in China

A variety of methods are used to detect drink/drunk driving in China. Breath alcohol testing (BAT) is the main method of legal enforcement (Fleiter et al., 2013). In order to promote the idea that all Chinese citizens are at risk of being tested and apprehended at any time, one of the key messages of anti-drink driving campaigns in China about the use of BAT uses the tagline: “Anytime, anywhere and anybody will be tested while drink driving” (Carroll et al., 2012; He et al., 2013). In this sense, BAT in China is similar to Random Breath Testing (RBT) in Australia in aiming to send the message that people can be apprehended for drink driving at any time. In the road safety manual for decision-makers and practitioners on drink driving issued by the World Health Organization, RBT is recommended as an effective countermeasure for alcohol-related driving management (WHO et al., 2007). In China, traffic police also use the technique of observing how an approaching vehicle is being driven, look at the driver's face when they are pulled over, and talk with them in order to assess whether alcohol may be present. They then test drivers whom they believe might be driving after drinking. This is more like “target testing” as conducted in Australia.

This paper reports on the findings of a comprehensive study of self-reported drink driving which was undertaken in the two cities, Guangzhou in China's south, and Yinchuan in the north in 2012, just one year after drunk driving became a criminal offence. The aims were to examine general motor vehicle drivers' and convicted drunk driving offenders' knowledge and behaviours regarding drinking and driving in the two cities and to investigate levels of alcohol misuse. Here, the term ‘general motor vehicle driver’ refers to any licensed motor vehicle driver over the age of 18 years. In addition, perceptions of drink driving and experiences of breath alcohol testing (BAT) among samples of traffic police in the two cities were also investigated. The results of the sub-studies by city and sample have been reported separately in research papers (Jia et al., 2013a, 2013b; Jia, 2015; Jia et al., 2015a, 2015b) and the present paper aims to integrate and develop the findings to provide policy recommendations on legal enforcement, public education and offender management in China. It is recognised that although these cities provide an opportunity for comparison in China, the use of only two cities represents a limitation in terms of generalisability of the results to the whole country.

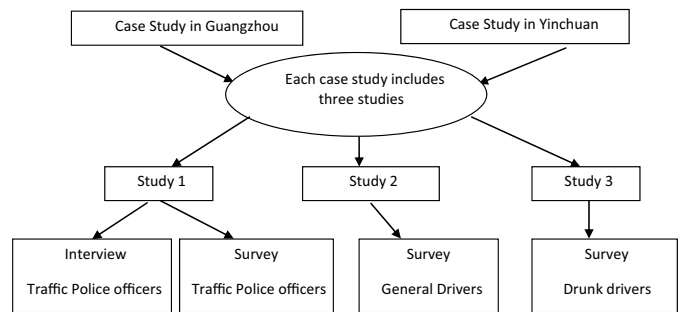


Fig. 1. Data collection in Guangzhou and Yinchuan.

2. Methods

2.1. Participants

Guangzhou is a coastal city of 12.78 million people and 2145 million vehicles as at 2011 (Qie, 2011; Traffic Management Bureau under Ministry of Public Security, 2013), the capital of the southern province of Guangdong. It has a high level of commercial activity and a subtropical climate. Yinchuan is an inland city of 1.65 million people and 410,000 vehicles, the capital of the northern Ningxia Hui Autonomous region (Yinchuan Public Security Bureau, 2011). It has an agriculture-based economy and a desert climate with cold dry winters. The cities were selected to explore the diversity of Chinese cities. Three samples were recruited in both cities, and the breakdown of the numbers in each city is given in Table 2. First, 16 traffic police officers with a variety of working experience including roadside alcohol breath testing, traffic crash investigation and police resourcing were interviewed; and 105 traffic officers were randomly recruited to complete a survey. Second, convenience samples of 812 general motor vehicle drivers were recruited from several sources including training and publicity events coordinated by a local traffic police publicity team and drivers visiting local Centres for Disease Control for physical examinations, as well as various workplaces. Third, 207 drunk driving offenders were recruited while in detention facilities for that offence. More specific details of these samples and recruitment methods are given in the following research papers (Jia et al., 2013a, 2013b; Jia, 2015; Jia et al., 2015a, 2015b).

2.2. Methods

Qualitative and quantitative research methods were used and the study flow chart for the integrated studies can be seen in Fig. 1.

Study one focused on traffic police officers in the two cities and was divided into two sub-studies. Altogether, 16 traffic police officers (six in Guangzhou and 10 in Yinchuan) with a variety of working experience and different ranks voluntarily participated in a semi-structured interview. More than one hundred traffic police officers (55 in Guangzhou and 50 in Yinchuan) completed an anonymous survey. Study two focused on general motor vehicle drivers. There were 812 drivers (406 in each city) who completed an anonymous survey. Study three recruited more than two hundred drunk driving offenders (101 in Guangzhou and 106 in Yinchuan) while they were in detention. We acknowledge that the responses of those in detention may potentially have led to biased reporting. Socio-demographical information was collected for all participants. Police perceptions of drink driving and problems existing in legal enforcement were investigated through face-to-face interviews and the survey. All driver samples were asked about their knowledge of the amended law and the legal BAC levels and were asked questions to assess their drink driving knowledge, attitudes and behaviours. In addition, the Alcohol Use Disorders Identification

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