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Knowledge, attitudes, and practices around drinking and driving in Cambodia: 2010–2012☆

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ABSTRACT

Objective: Road traffic injuries are a leading cause of disability and death in Cambodia. Economic development has long been associated with rapid increases in road traffic injuries and fatalities. Drink driving is of particular concern in Cambodia. In 2014, the percentage of fatal crashes involving alcohol rose to 17.5% (n = 381), representing a 34.9% (n = 253) increase from 2012. This study aims to illustrate current knowledge, attitudes and practices (KAP) around drinking and driving in three Cambodian provinces.

Methods: A roadside survey of randomly selected road users (aged 18 years and older) was conducted in Phnom Penh, Kandal, and Kampong Speu, Cambodia, between November 2010 and May 2012. Data were collected for five-day periods every 6 months. A survey was administered to assess prevailing knowledge, attitudes, and practices surrounding drink driving.

Results: A total of 1187 road users responded to the KAP survey, the majority (49.6%, n = 585) of whom were from Phnom Penh. Males accounted for 96.2% (n = 1142) of respondents; the majority (63.8%, n = 757) were aged 34 years and younger. Despite the belief that drinking and driving would increase the risk of a crash, a significant proportion of respondents (37.1%, n = 438) reported driving within 2 h of drinking alcohol at least once in the 30 days preceding the survey. This proportion was particularly high among males aged 25–34 years at 49.2% (n = 208). Of those who reported drinking and driving, 76.5% (n = 335) indicated they 'felt conscious enough' to drive at the time and 34.0% (n = 149) reported having 'no other available transportation options'.

Conclusions: This study shows that, in general, drinking and driving remains a problem in Cambodia. A multi-pronged, coordinated approach is needed to effectively address this issue. Such an approach ought to include social marketing and public education campaigns, enhanced enforcement, and programs that either limit the number of drinks to drivers or those that provide alternatives to drinking and driving.

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Introduction

Road traffic crashes result in an estimated 1.40 million fatalities annually, constituting the fifth leading cause of death globally.[1] An additional 20–50 million individuals suffer nonfatal road traffic injuries (RTIs), which commonly result in disability.[2] Accordingly, from 1990 to 2013, RTIs increased by 13.3% from the ninth to the seventh leading cause of disability-adjusted life years globally (from 64.6 million to 73.3 million) and now account for the largest proportion (29.6%) of the global injury burden.[3,4]

Southeast Asia, East Asia, and Oceania accounts for approximately 32.7% ($n = 456,077$) of global road traffic mortality.[15] In Cambodia, the proportion of morbidity and mortality attributable to RTIs continues to increase. Over the 8-year period from 2005 to 2013, the number of road traffic fatalities has more than doubled from 1662 to 3657, respectively, whereas the population size and number of registered motorized vehicles has increased by roughly 10% and 231%, respectively.[5–7] Consequently, the road traffic fatality rate also increased by 91.2%, from 6.8 per 100,000 population in 2005 to 13.0 per 100,000 population in 2013. According to the Road Crash and Victim Information System, in 2013, there were 16,654 road crashes, resulting in 1950 deaths and 13,468 injuries. Young adults (15–29 years) were disproportionately affected, with 49.0% of mortality due to RTIs occurring among this age group.[6]

Numerous studies implicate alcohol as a major risk factor for road traffic crashes, as well as traumatic outcomes including death or disability of individuals at relatively young age.[8–13] Substantial evidence suggests that alcohol impairs judgment and increases the possibility of engaging in other high-risk behaviors, such as speeding and violating traffic rules.[14–20] It also affects vision, makes identifying risks and potentially dangerous situations in the road environment more difficult, and delays reaction time to both light and sound.[11] Although the rates and methods of assessing the prevalence of drinking and driving differ across countries making meaningful comparisons difficult to make, alcohol remains a universal risk factor for road traffic crashes.[9] The WHO estimates that, in high-income countries, approximately 20% of drivers in fatal crashes had blood alcohol contents above the legal limit. In low-income countries, the proportion of fatal crash crashes involving an alcohol-impaired driver range from 33% to 69%.[21] Furthermore, in an older review of 26 epidemiological studies of RTIs in the context of developing countries, Odero et al.[8] reported that nearly one-fifth to one-third of crashes occur at night, and the majority of the observed crashes were associated with high rates of alcohol consumption among drivers, in combination with poor visibility and greater traffic density.

Cambodia ranks 114th in the world in alcohol consumption and is higher than many Southeast Asian countries (e.g. Indonesia: 0.59 L/person; Singapore: 1.55 L/person).[9] Between 2008 and 2010, the average adult (over 15 years of age) per capita consumption of pure alcohol in Cambodia was 5.5 L (L), as compared with 4.6 L per person in 2003–2005.[9] On average, the per capita alcohol consumption among males (9.6 L/person) far exceeds that of females (1.7 L/person) as well as the global average (6.6 L/person).[9] A 2010 WHO survey of Cambodians aged 25–64 years also found that almost two-thirds consumed alcohol and that males were 2.4 times more likely to be current drinkers and ten times more likely to have engaged in heavy episodic drinking in the past 30 days, as compared with their female counterparts.[22]

In Cambodia, drunk-driving is second only to speeding as a major risk factor for road crashes and casualties.[6,7] It is estimated that 16% of road traffic deaths are attributable to alcohol in Cambodia.[23] From 2012 to 2014 alone, the proportion of alcohol-impaired road traffic fatalities increased by around one-third, from 12.9% in 2012 to 17.1% in 2014.[7] Among at-fault motorcyclists, this proportion increased to 30.9%. It is also worth noting that in crashes attributed to unsafe speed in Cambodia, 12.0% of at-fault drivers were also suspected of driving under the influence of alcohol.[6]

In light of the considerable evidence on the link between alcohol, impairment, and crash risk, it is critical that action is taken to develop programs and policies that address the factors influencing the decision to drink and drive in the Cambodian context. This study represents a first step in this process, as it aims to develop a better understanding of the knowledge, attitudes, and practices (KAPs) around alcohol use and drinking and driving in three provinces in Cambodia. It will help guide the enforcement of existing alcohol legislation or develop more targeted social marketing and public education campaigns in the country. Moreover, we hope this study stimulates strong action to reduce the impact of alcohol.

Methods

Roadside surveys were conducted between November 2010 and May 2012 with the objective of capturing road users' KAPs regarding road safety, alcohol use, and drink driving. This was done by surveying randomly selected road users (18 years of age and older) at gas stations or rest areas in 14 districts in the study provinces: Phnom Penh ($n = 4$), Kandal ($n = 6$), and Kampong Speu ($n = 6$). Province selection was determined based on the criteria established under the Road Safety in 10 Countries project funded by Bloomberg Philanthropies.[24]

In each province, the study employed a multiphase sampling strategy with gas stations and rest areas as the primary sampling unit. The first phase entailed road selection, where all roads in each province were listed and categorized as national or provincial roads. Roads without a gas station or rest stop were excluded due to concerns for the safety of participants as well as the interviewers. In the second phase, gas stations and rests stops located on the roads listed in each province were identified for inclusion. Given that road user behavior may change depending on the type of road being used, all road types were represented (highway, secondary roads, city roads, and rural roads). In the final phase, road users were randomly selected for participation. One road user was selected for surveying at the beginning of each time block and every tenth road user thereafter. Informed consent and agreement to participate were obtained at the study sites.[25]

Data were collected during five-time periods of 60 min each throughout the day, from 07:30 am to 9:30 pm, to ensure that the survey sample accurately represented the total population under study. Data were collected by trained interviewers using a closed-ended questionnaire. The survey was administered in the Khmer language and sought to capture road users' self-reported KAPs regarding road safety, the effects of alcohol, and drinking and driving through a series of 21 questions about traffic laws, regulations, and their alcohol consumption. Sample questions are included in Table 1. Information was collected on the following variables: (1) demographics (age, sex, education); (2) vehicle type; (3) drivers'/passengers' attitudes and behaviors toward drink driving; (4) perceived risks of drink driving; (5) awareness of social media related to risk factors and enforcement; and (6) police enforcement levels.

The data collection forms were translated into Khmer using a standard translation-back translation protocol.[26] A field protocol was also developed in English and Khmer to assist data collectors in administrating and scoring the surveys. All data were cleaned, processed, and analyzed using SPSS (SPSS Inc., 1999), Stata 12 (StataCorp, 2012) and Microsoft Excel. Exploratory data analysis was first done using tabulations and cross-tabulations to understand underlying trends and patterns in drink driving attitudes and behaviors regarding drink driving. Chi-squared tests were conducted to assess the association between drinking and driving and self-perceived risk of a crash as well as the association between reported alcohol consumption and drink-driving crashes. The study was reviewed and approved by the Institutional Review Board at the Johns Hopkins Bloomberg School of Public Health and the National Road Safety Committee in Cambodia.

Results

A total of 1187 individuals participated in the study: 589 (49.6%) from Phnom Penh, 279 (23.5%) from Kandal, and 319 (26.9%) from Kampong Speu (Table 2). Of which, 96.2% ($n = 1142$) were male and 63.8% ($n = 757$) were less than 35 years of age (Table 2). In terms of educational attainment, 36.1% ($n = 428$) had completed a secondary education and 50.1% ($n = 595$) had completed post secondary education (Table 2). More than half (56.9%, $n = 674$) of participants used motorcycles or other motorized two-wheelers. Of all, 23.5% ($n = 278$) used a sedan and less than ten percent (8.9%, $n = 106$) used a truck (Table 2).

Table 1 – Sample questions to establish participants' knowledge, attitudes, and practices toward drink driving.

- Which of the following statements best describes your attitude toward drinking and driving?
- In the past 30 days, approximately how many times have you driven a motor vehicle within 2 h after drinking alcoholic beverages?
- Have you ever ridden in a motor vehicle where the driver just has had several drinks?
- If driving under the influence of alcohol, what do you think your chances are of getting caught?
- If you are caught drink driving, what is the penalty?

Overall, 87.1% ($n = 1025$) of the respondents agreed that alcohol use heightened their risk of a road traffic crash (Table 3). This proportion increased by 26.6% over the two year study period: from 71.8% ($n = 209$) in November 2010 to 95.1% ($n = 289$) in May 2012, the highest proportion being in Kandal (94.7%, $n = 216$), followed by Phnom Penh (85.2%, $n = 396$) and Kampong Speu (84.5%, $n = 235$).

While the majority of study respondents agreed that alcohol increases crash risk (87.1%, $n = 1025$), 37.1% ($n = 438$) reported driving within 2 h of drinking alcohol at least once in the 30 days preceding the survey. Respondents aged 25–34 years accounted for the largest proportion of this sub-group (48.6%, $n = 213$). This proportion decreased by more than half among participants aged 35 to 44 years (22.8%, $n = 100$). Less than one-fifth were aged 24 years and younger (16.2%, $n = 71$). Differences between sexes also emerged regarding drinking and driving practices. As expected, drinking and driving was more common among males. Of the 438 study participants who used alcohol in the past 30 days, 96.6% ($n = 423$) of self-reported drinkers were male and 3.4% ($n = 15$) were female. Of those females who had admitted to drinking and driving, more than half were aged 18–24 years (53.3%, $n = 8$). Among males, this proportion was the highest among those aged 25–34 years (49.2%, $n = 208$), followed by those aged 35–44 years (23.2%, $n = 98$) and 18 and 24 years (14.9%, $n = 63$).

More than one-third (37.2%, $n = 435$) of participants reported that they do not drink and drive at any time, whereas slightly less than half of the participants (46.7%, $n = 546$) reported limiting their alcohol intake when they knew they were going to be driving (Table 4). The proportion of respondents that stated that they do not drink and drive was the highest in Kandal (38.5%, $n = 107$), followed by Phnom Penh (37.2%, $n = 215$) and Kampong Speu (36.0%, $n = 113$). A similar trend was observed among participants who reported limiting their alcohol consumption when driving (52.9% ($n = 166$) in Kampong Speu vs 44.8% ($n = 259$) in Phnom Penh vs 43.5% ($n = 121$) in Kandal). Further analysis showed that the respondents who reported driving a motor vehicle within 2 h of consuming alcoholic beverages in the 30 days preceding the survey were more likely to have limited their alcohol consumption beforehand as opposed to avoiding it altogether. The results of the Chi-squared test identified a statistically significant difference between the groups (Chi-squared: 85.5904; $P < 0.001$; Table 5).

The study also found that 9.3% ($n = 109$) of respondents reported being involved in a drinking and driving-related crash, ranging from 7.0% ($n = 22$) in Kampong Speu to 10.5% ($n = 61$) in Phnom Penh (Table 6). In addition, 55.8% ($n = 653$) of study participants reported riding as a passenger in a vehicle driven by someone who had been drinking. This proportion was the highest in Kampong Speu (59.8%, $n = 188$) and lowest in Kandal (54.1%, $n = 151$). The proportion of study participants who reported being involved in a drinking and driving-related crash decreased significantly from November 2010 to May 2012 across all the three regions (Table 6). The largest decrease occurred in Kampong Speu (67.9%), followed by Phnom Penh (62.2%) and Kandal (44.4%; Table 6). By May 2012, the proportion of respondents involved in drinking and

Table 2 – Demographic information on study participants in Cambodia (Nov 2010–May 2012).

Characteristic	Male N = 1142 n (row %, col %)	Female N = 45 n (row %, col %)	Total N = 1187 n (row %, col %)
Province			
Phnom Penh	557 (94.6, 48.8)	32 (5.4, 71.1)	589 (100.0, 49.6)
Kandal	273 (97.9, 23.9)	6 (2.2, 13.3)	279 (100.0, 23.5)
Kampong Speu	312 (97.8, 27.3)	7 (2.2, 15.6)	319 (100.0, 26.9)
Age group in years			
18–24	177 (87.2, 15.5)	26 (12.8, 57.8)	203 (100.0, 17.1)
25–34	539 (97.3, 47.2)	15 (2.7, 33.3)	554 (100.0, 46.7)
35–44	269 (98.5, 23.6)	4 (1.5, 8.9)	273 (100.0, 23)
45–54	132 (100.0, 11.6)	0 (0.0, 0.0)	132 (100.0, 11.1)
>55	25 (100.0, 2.2)	0 (0.0, 0.0)	25 (100.0, 2.1)
Education level			
No education	19 (100.0, 1.7)	0 (0.0, 0.0)	19 (100.0, 1.6)
Primary education	140 (97.9, 12.3)	3 (2.1, 6.7)	143 (100.0, 12)
Secondary education	418 (97.7, 36.6)	10 (2.3, 22.2)	428 (100.0, 36.1)
Post secondary education	563 (94.6, 49.3)	32 (5.4, 71.1)	595 (100.0, 50.1)
Vehicle type			
Motorcycle	637 (94.5, 55.9)	37 (5.5, 82.2)	674 (100.0, 56.9)
Sedan	270 (97.1, 23.7)	8 (2.9, 17.8)	278 (100.0, 23.5)
Truck	106 (100.0, 9.3)	0 (0.0, 0.0)	106 (100.0, 8.9)
Taxi	88 (100.0, 7.7)	0 (0.0, 0.0)	88 (100.0, 7.4)
Standard utility vehicle (SUV)/van	30 (100.0, 2.6)	0 (0.0, 0.0)	30 (100.0, 2.5)
Other	9 (100.0, 0.8)	0 (0.0, 0.0)	9 (100.0, 0.8)

drinking-related crashes had decreased to 7.3% ($n = 11$) in Phnom Penh, 6.5% ($n = 5$) in Kandal, and 5.3% ($n = 5$) in Kampong Speu ($n = 4$). Further analysis using the Chi-squared test at $P < 0.05$ revealed that individuals who reported being involved in a crash because of drink driving in the past year were more likely to have 'limited their alcohol intake' as opposed to avoiding alcohol ($P > 0.001$; Table 7).

The survey also sought to identify factors that influence one's decision to drink and drive. Police enforcement emerged as a deterring factor; overall, 81.0% ($n = 949$) of respondents reported that they refrain from drinking and driving to avoid being caught by the police (Table 3). This proportion was the highest in Kandal (87.1%, $n = 242$) followed by Phnom Penh (79.3%, $n = 463$) and Kampong Speu (78.7%, $n = 244$). On average, this proportion increased substantially from 67.3% ($n = 193$) in November 2010 to 89.4% ($n = 270$) in May 2012.

In terms of general enforcement of the alcohol law, only 6.0% ($n = 71$) of participants reported being stopped by a police officer in the past 30 days for drink driving. This proportion was the highest in Kampong Speu (8.2%, $n = 26$) followed by Phnom Penh (5.3%, $n = 31$) and Kandal (5.0%, $n = 14$). More than three-quarters (82.8%, $n = 936$) of study participants thought that the penalty for drink driving involved a fine; 11.5% ($n = 130$) thought that it was either no penalty (2.4%, $n = 28$) or a warning only (9.0%, $n = 102$). Approximately five percent (4.8%, $n = 57$) did not know the penalty for drink driving.

Table 3 – Attitudes toward the effect of drink driving on road traffic injuries (Nov 2010–May 2012).

Statement	Nov 2010 N = 298	May 2011 N = 298	Nov 2011 N = 287	May 2012 N = 304	Total N = 1187
	Agree n (%)	Agree n (%)	Agree n (%)	Agree n (%)	Agree n (%)
Driving after drinking alcohol increases the risk of a crash ($n = 1177$)	209 (71.8)	276 (93.2)	251 (87.8)	289 (95.1)	1025 (87.1)
Drink driving is not a problem when driving for a short distance ($n = 1171$)	96 (33.1)	69 (23.7)	43 (15.0)	31 (10.2)	239 (20.4)
I will not drink-drive in order to avoid being caught by the police ($n = 1172$)	193 (67.3)	250 (84.5)	236 (82.2)	270 (89.4)	949 (81.0)
After drinking, I will hire a car to go home so that do not drive home by myself ($n = 1168$)	142 (49.5)	204 (68.1)	154 (54.4)	216 (71.3)	713 (61.0)

Table 4 – Participants' behaviors regarding drink driving, by round (Nov 2010–May 2012).

Statement	Nov 2010 N = 286	May 2011 N = 296	Dec 2011 N = 286	May 2012 N = 302	Total N = 1170
	n (%)	n (%)	n (%)	n (%)	n (%)
I don't drink at any time (n = 178)	46 (16.1)	70 (23.7)	35 (12.2)	27 (8.9)	178 (15.2)
If I am driving, I don't drink (n = 435)	101 (35.3)	94 (31.8)	124 (43.4)	116 (38.4)	435 (37.2)
If I am driving, I restrict what I drink (n = 546)	132 (46.2)	132 (44.6)	124 (43.4)	158 (52.3)	546 (46.7)
If I am driving, I do not restrict what I drink (n = 11)	7 (2.5)	0 (0.0)	3 (1.1)	1 (0.3)	11 (0.9)
Total (n = 1170)	286 (100.0)	296 (100.0)	286 (100.0)	302 (100.0)	1170 (100.0)

Table 5 – Relationship between reported alcohol consumption and drinking and driving among drivers in Cambodia (Nov 2010–May 2012).

Driven within 2 h of using alcohol in the past 30 days	Avoid alcohol N = 435	Limit alcohol use N = 545	Total N = 980
	n (%)	n (%)	n (%)
Yes (n = 438)	106 (24.4)	293 (53.8)	399 (40.7)
No (n = 743)	329 (75.6)	252 (46.2)	581 (59.3)
Total (n = 1196)	435 (100.0)	545 (100.0)	980 (100.0)

Pearson's Chi-squared = 85.5904; $P < 0.001$.

Table 6 – Percentage of respondents involved in a drink driving crash in the past year (Nov 2010–May 2012).

Location	Nov 2010 N = 290	May 2011 N = 289	Nov 2011 N = 287	May 2012 N = 304	Total N = 1170
	n (%)	n (%)	n (%)	n (%)	n (%)
Phnom Penh (n = 579)	28 (19.3)	16 (11.3)	6 (4.3)	11 (7.3)	61 (10.5)
Kandal (n = 278)	7 (11.7)	11 (15.1)	3 (4.4)	5 (6.5)	26 (9.4)
Kampong Speu (n = 313)	14 (16.5)	1 (1.4)	3 (3.9)	4 (5.3)	22 (7.0)
Total (n = 1170)	49 (16.9)	28 (9.7)	12 (4.2)	20 (6.6)	109 (9.3)

Table 7 – Relationship between reported alcohol consumption and crashes involving drinking and driving among drivers in Cambodia (Nov 2010–May 2012).

Involved in crash because of drink driving in past year	Avoid alcohol N = 430	Limit alcohol use N = 541	Total N = 971
	n (%)	n (%)	n (%)
Yes (n = 84)	33 (7.7)	51 (60.7)	84 (8.6)
No (n = 887)	397 (92.3)	490 (90.6)	887 (91.4)
Total (n = 971)	430 (100.0)	541 (100.0)	971 (100.0)

Pearson's Chi-squared = 0.9312; $P = 0.335$.

Discussion

This study is one of the first that aims to capture knowledge, attitudes, and practices around drinking and driving in Cambodia. It shows that self-reported alcohol use remains high among drivers in Cambodia. Our results illustrate that many people have the correct perceptions of alcohol consumption and its effects on driving. For example, nearly 90% of respondents reported that driving while under the influence of alcohol increases the risk of a crash. However, this knowledge does not necessarily translate into safe driving practices, as illustrated by the fact that only 15.2% (n = 178) of respondents reported that they do not drink alcohol and less than half (37.2%, n = 435) reported that they do not drink any alcohol when driving. An even greater proportion believed that limiting their alcohol intake and driving was acceptable (46.7%, n = 546).

Research suggests that individuals do not often comprehend what amount of alcohol intake constitutes the legal limit in terms of number of drinks.[13,27,28] Furthermore, because alcohol can affect parts of the brain that control judgment, individuals often engage in higher-risk behaviors. The World Health Organization notes that the impairment risk rises exponentially with increasing consumption of alcohol, starting at blood alcohol content levels between 0.02 g/dl and 0.05 g/dl.[9] When under the influence of alcohol, individuals may not perceive their driving as impaired.[14–18] The findings demonstrate that individuals who reported having driven within 2 h of drinking alcohol (37.1%, n = 438) were more likely to have limited their alcohol consumption (53.8%, n = 293), as opposed to avoiding alcohol altogether (24.4%, n = 106). Thus, this study supports the theory that participants are over-confident about being involved in an alcohol-related crash and mistaken conceptions around limiting their alcohol intake, as opposed to avoiding alcohol entirely.

Police enforcement emerged as a deterring factor against drinking and driving, with the majority of respondents indicating they do not engage in this behavior to avoid getting caught by police. However, only a small proportion (6.0%, n = 71) of respondents reported being stopped by the police. Cambodia has the necessary laws to improve road safety, but not the required enforcement. This presents an opportunity for reducing the prevalence of drinking and driving through increased enforcement. Studies have found that visible and widespread enforcement is critical to increasing drivers' perceptions of being caught and functions as a reinforcing mechanism for desirable behaviors.[10,20,29–31]

The study's findings provide further evidence to support the implementation of multi-pronged, long-term approaches that combine law enforcement efforts, specifically increased enforcement of legislation and stricter penalties for violations, with social marketing campaigns.[30–33] Enhanced enforcement of existing laws and policies should focus on

limiting drivers', specifically younger drivers' (18–24 years), access to alcohol.[8,23,42] Evidence exists that demonstrates the effectiveness of enhanced enforcement across various settings when employed with other mutually reinforcing interventions aimed at enhancing prevention efforts, such as mass media campaigns. The coupling of such interventions has been shown to reach beyond the individual level and influence attitudes and behaviors at the population level.[10,30,31,35–38]

It is critical that future mass media campaigns, however, are relevant and responsive to the target population.[38,39] For example, campaigns ought to provide more practical information that can be understood by the average citizen and can be applied to the local context.[32,33,39] This may involve daily radio spots discussing the legal limit in terms of the country's most commonly sold or consumed alcohol types.[13,28] Focused efforts must be made to develop prevention and intervention programs targeted to the specific needs of high-risk populations, particularly younger males (17–26 years).[37–39,40] This demographic is usually more likely to engage in risky behaviors, such as alcohol consumption, which are unlikely to be affected by large-scale communication campaigns alone.[14,15,29,35,39] The government and other organizations must also increase efforts to implement programs that provide individuals with safe alternatives to drinking and driving; as our results indicate, more than 40% of respondents reported drinking and driving because there were no other options. These might include affordable taxi services from bars and restaurants and designated driver programs.[23,33,34,40–42]

This study is based on self-reported data and is subject to limitations, including recall and reporting biases. Although study participants were selected randomly, females are largely underrepresented. We recognize this as a major limitation, as their KAPs associated with drinking and driving remain largely uncaptured. One additional limitation is the inability to confirm self-reported drinking and driving. In light of the sensitive nature of the subjects and the high proportion of respondents that recognized that harmful effects of drink driving, it is believed that the prevalence of this practice seen in the study underestimates the true population prevalence, especially among females. This serves to reinforce the critical need to address the alcohol problem in Cambodia.

In addition to generating a better understanding of the existing KAPs around drinking and driving, a greater focus on developing a complete and accurate understanding of alcohol involvement in road traffic crashes, injuries, and deaths is required in Cambodia and other similar settings. The current data that exist likely underestimates the number of alcohol-related injuries and deaths, as the majority of consumption remains unrecorded by monitoring efforts.[16,34,42]

Author statements

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Ethical approval

The study was reviewed and approved by the Institutional Review Board at the Johns Hopkins Bloomberg School of Public Health and the National Road Safety Committee in Cambodia.

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Competing interests

None declared.

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