ORIGINAL ARTICLE

Understanding the knowledge and attitudes of commercial drivers in Ghana regarding alcohol impaired driving

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Objectives: The knowledge and attitudes of commercial drivers in Ghana as regards alcohol impaired driving were investigated. This was done in order to provide information that could subsequently be used to develop antidrunk driving social marketing messages built upon the intrinsic values and motivation of these drivers.

Methods: Focus group discussions were held with 43 bus and minibuss drivers in the capital city, Accra. A structured discussion guide was used to capture information related to values, risk perceptions, leisure time activities, and attitudes on alcohol impaired driving.

Results: The majority of drivers expressed an understanding that drunk driving was a significant risk factor for crashes. There was a significant under-appreciation of the extent of the problem, however. Most believed that it was only rare, extremely intoxicated drivers who were the problem. The drivers also had a minimal understanding of the concept of blood alcohol concentration and related legal limits. Despite these factors, there was widespread support for increased enforcement of existing antidrunk driving laws.

Conclusions: In Ghana, commercial drivers understand the basic danger of drunk driving and are motivated to assist in antidrunk driving measures. There are misconceptions and deficits in knowledge that need to be addressed in subsequent educational campaigns.

Injuries are one of the leading causes of death in both developed and less developed countries (LDCs). However, whereas rates of injury related death are decreasing in most developed countries, they are on the increase in most LDCs.^{1–4} One of the main causes of injury fatalities is road traffic related. Recent data from the World Health Organization show that in the developing world as a whole, road traffic crashes alone are the third leading cause of death in 5–14 year olds and the second leading cause in 15–44 year olds.⁵

Despite this problem, limited attention has been focused on issues related to road safety in LDCs. Matters crying out for attention involve the entire spectrum of road safety activities, including safer road infrastructure, vehicle design and maintenance, and driver behavior. As regards driver behavior, a major risk factor in developed countries has been alcohol impaired driving.^{1–7} Accordingly, one of the cornerstones of road safety efforts in these countries has been antidrunk driving measures.

From the evidence, it appears that the situation is similar in many other LDCs. In a recent review of the literature, Odera *et al* summarized a total of 26 articles on alcohol involvement in motor vehicle related injuries in LDCs.⁸ Almost all studies reported high rates of alcohol use by drivers involved in crashes producing both fatal and non-fatal injuries. Rates of alcohol impaired driving (blood alcohol concentration (BAC) ≥ 80 mg/dl) among these drivers ranged from 30% to 53%,^{9–14} similar to the values reported from the USA in the past few decades.^{1–6, 15}

Likewise, a recent roadside breathalyzer survey in Ghana¹⁶ showed that 7.3% of 722 randomly selected drivers had a BAC of ≥ 80 mg/dl. The 7.3% rate is notably higher than the rates of 0.4% to 3.4% in similar studies in developed countries.¹⁷ Moreover, in the Ghanaian environment with a predominance of commercial rather than private vehicles,^{18, 19} 64% of all intoxicated drivers were commercial drivers, including taxi, bus, and

truck drivers.¹⁶ No other data on the extent of drunk driving nor its role in crash causation are currently available in Ghana.

Based on the evidence, it seems that antidrunk driving efforts should be a major component of road safety efforts in Ghana and other similar LDCs. Antidrunk driving efforts typically include both law enforcement and education. These two approaches are mutually complementary and have resulted in significant lessening in the prevalence of drunk driving rates and the rate of alcohol related crashes in most developed countries.^{1–6, 15}

As regards enforcement, until recently antidrunk driving law enforcement efforts had been minimal in Ghana. Partly in response to publicity²⁰ from the aforementioned study,¹⁶ Parliament passed the "Road Traffic (Amendment) Act, 1998, Act 553, Section 19 (ii)", which established 80 mg/dl as a *per se* definition of driving under the influence of alcohol. Increased enforcement efforts arising from this law have thus far been slow in coming, however. Furthermore, educational campaigns to attack the problem also remain minimal.

Educational campaigns are best built on the techniques of social marketing, that is, understanding and incorporating the target group's attitudes and values. In developed countries, considerable effort has gone into such research and development.^{7, 21} For example, a main target group has been younger drivers who have been drinking with friends at parties. Campaigns using messages such as "The designated driver is the life of the party" have had considerable success in this target group.^{22, 23}

The campaigns carried out in developed countries cannot be directly transposed to most LDCs for several reasons. First, the underlying culture is often considerably different. Second, the

Abbreviations: BAC, blood alcohol concentration; LDCs, less developed countries

context of the drunk driving is also different. For example, among drunk drivers in Ghana, there is a preponderance of older commercial drivers rather than younger private drivers. The commercial drivers often drink as a habitual activity, not at parties. Moreover, many of the commercial drivers have low levels of formal education. Hence, the educational interventions need to be considerably different than those in developed countries.

The current study sought to obtain information on the knowledge and attitudes of commercial drivers in Ghana about alcohol impaired driving. The long range goal was to provide information that can subsequently be used to develop antidrunk driving social marketing strategies built on the values and motivation of these drivers.

METHODS

The study setting was the West African country of Ghana (population 17 000 000) with a per capita gross national product of \$325. The study was conducted in the capital, Accra, which has a population of 2 000 000 making it the country's largest city.

In the study area, the majority of motorized transport is provided by publicly used vehicles, including taxis, minibuses, and buses. Most taxis and minibuses are privately owned and rented to individual commercial drivers. This is also the case for some buses, many of which are owned by larger companies or government agencies.

To answer the research questions, information was collected through a series of focus group discussions. These were conducted at five separate "lorry [truck] parks" in Accra. These lorry parks are areas where people go to obtain publicly available transportation provided by taxis, minibuses, and buses. They consist of substations, grouped by transport mode (taxi, bus) and destination.

We sought drivers who indicated that they had driven within two hours of consuming alcohol at least once in the past year. We also varied the types of drivers (short distance/intracity compared with long distance/intercity) and stations at which the focus group discussions were held.

An in-depth discussion guide, adapted from similar work carried out in the United States,²¹ was developed for the target groups to capture information and trends related to values, risk perceptions, leisure time activities and experiences, and attitudes on alcohol impaired driving. The guide included open ended questions about the following topics:

- Demographic information.
- Drinking patterns, including the social and physical settings in which most drinking and driving occurs for the target group.
- Driving patterns.
- Leisure activities.
- Decision making processes regarding drinking and driving.
- Perceptions about impaired driving.
- Recommendations for counter measures that would be most acceptable to the target group.
- The appropriate content and vocabulary for countermeasure messages for the target group.

During the focus group discussions it was emphasized that the moderator was not asking the participants to talk publicly about themselves, but rather was asking them their opinions about what other drivers do, think, and feel concerning the problem of drinking and driving.

All focus group discussions were conducted by the coauthors (GA, JB). Depending on the languages understood by the drivers, they were conducted in either English or one of two local vernacular languages (Twi or Ewe). Driver involvement in the focus group discussions was voluntary and

anonymous. The study was approved by the Ministry of Health of Ghana and the Ghana Police Force.

RESULTS

Characteristics of participants

Five focus groups discussions were held involving a total of 43 participants; they were conducted in groups of 7–10 participants. All participants were men. (Female commercial drivers are rare in Ghana.) The mean (SD) age was 38.8 (13.7) years and they had a mean of 8.3 (6.8) years of driving experience.

A significant percentage had no formal schooling (16%) and most had only a basic primary education (60%). Only 23% had attended or completed secondary school.

The participants consisted of 26 intercity/long distance drivers and 17 intracity/short distance drivers. All were drivers of either minibuses or large buses.

General issues and drinking and driving

Participants in the focus group discussions were unanimous in admitting that by the nature of their work, they were at risk of motor vehicle crashes. Causes of crashes that were brought up by the groups included:

- Reckless driving, such as wrong overtaking on the part of drivers.
- Bad road surfaces/poor roads.
- Non-maintenance of motor vehicles.
- Alteration of conditions of motor vehicles such as conversion of goods vans into passenger vehicles without the use of the appropriate construction materials.
- The excessive use of fog lights.
- Speeding in general.
- Demands for increased returns on the part of transport owners which prompts drivers to over-speed and to work when exhausted.
- Lack of road signs and markings.
- Alcohol and drug use.

Drinking patterns and attitudes

The groups were also unanimous that drinking causes relaxation, releases their inhibitions, and increases their confidence on the road. It helps them to socialise and they enjoy the taste. However, every group listed more problems associated with alcohol than good points, usually beginning with "hangovers", addiction, "accidents", and deaths.

The general practice was that commercial drivers concentrate their alcohol intake to early mornings, before the start of work, and late in the evenings, after the close of work, usually before the heavy evening meal. The most favored drinks were hard liquor.

When asked what they think about the relative levels of risks associated with drinking and driving, most recognized the dangers:

- *"Drinking gives the driver false courage".*
- *"Drinking affects one's sense of judgment".*
- *"The drunk driver is always prone to over-speeding and accidents".*
- *"The drunk driver does not exercise restraint at dangerous portions of the road".*
- *"The drunk driver overtakes other vehicles unnecessarily".*
- *"The drunk driver is a potential killer on the road".*

However, there was also an under-appreciation of the extent of drunk driving. All the focus group discussions thought alcohol use was minimal because they belonged to unionised groups or cooperatives and hence were constantly being monitored by their executives. However, it was generally agreed that some drivers may beat the executives' vigilance.

Reasons for drinking

Pressure from friends to drink seemed to be persuasive. In some cases, pressure was the result of social practices, such as funerals, baby “out-doorings”, and other social gatherings. Participants described norms that exist in these social settings that require that all of the members of a social group be “on the same level” of intoxication. At their eating places, some drivers take alcohol as appetizers.

Other reasons assigned why commercial drivers drink and drive included:

- For medicinal purposes.

“We use the local spirit ‘akpeteshie’ to prepare the herbal concoctions ‘bitters’ which is often taken twice daily. The bitters restore our appetite for food and also help in curing so many diseases such as hernia, sight problems etc.”

- Others just have the urge to drink alcohol because they have become addicted to it.

“Some drivers do not feel okay in the absence of alcohol”.

“Drinking makes some of us alert behind the steering wheel”.

Alcohol use seems to play a significant part in the life of most commercial drivers and many focus group participants conceded that most drivers consume some form of alcoholic beverage. The one exception to this was the lorry park where many of the drivers were Muslim.

Drivers’ suggestions as to ways to address drunk driving

All groups indicated that road safety as an issue is frequently discussed by the drivers.

- *“We periodically organise welfare meetings where issues about road traffic accident prevention feature very prominently. We often invite personnel from the police to educate our drivers on defensive driving techniques and road safety principles”.*

All agreed that drivers know that avoidance of alcohol can reduce their risk of involvement in a crash.

- *“We know the harmful effects of alcohol and the role it plays in causing accidents; therefore avoiding alcohol especially while driving will reduce our involvement in road traffic accidents”.*

The groups also indicated a variety of ways to decrease the problem of drunk driving by commercial drivers. In these, there was a sense that it was the very drunk drivers that were the problem and that these should be controlled. It appeared that most of the participants did not think of themselves in this sense.

- *“The police should increase their patrols on all major roads especially during all public holidays so as to arrest and get rid of all drunken and other reckless drivers”.*

- *“Passengers must also report drivers who drink alcohol while driving to policemen who man barriers along their routes”.*

- *“Our executives should be firm and sanction drivers who drink and drive and also prevent the sale of alcohol at the vehicle terminals”.*

Most participants think the performance of the police has not been satisfactory. While a few said that they had been tested for drunk driving by the police only once, the majority said that they had only heard of the breathalyser from other drivers or seen it demonstrated by the police. Moreover, there was a general lack of understanding of the concept of blood alcohol concentration.

- *“We occasionally see policemen on the road with a machine which has a tube and we’re made to blow air into the tube. The machine records certain values and the policeman tells you that you’ve taken alcohol. We don’t know the limits to which one may take alcohol and we also do not know what the law stipulates with regards to drunk driving.”*

To ensure that drivers do not drink while on the road, the following suggestions were put forward:

- All barriers leading to the city should have breathalysers; so that all drivers can be tested and those who have been found to be drunk would be prevented from continuing their journey.

- Increase enforcement procedures through frequent police patrols so that the fear of potential arrest would cause them (drivers) to alter their drinking and driving patterns.
- Drivers who are certified drunk should have their licences withdrawn and should be jailed for a period of up to three months.
- Alcohol related accidents should be treated as murder/manslaughter.

DISCUSSION

In developed countries, social marketing strategies against drunk driving, in and of themselves, have had mixed results. Many individual campaigns have not shown significant effects.^{22–24} This is especially the case with those that only promote general awareness of the drunk driving problem. However, campaigns that target individual behavior change and promote an alternative behavior have been more successful such as campaigns promoting the use of designated drivers.²² Moreover, effects of such educational work tend to be noticeable only over longer periods and with repetition.²⁵

Educational campaigns are more effective when combined with other antidrunk driving interventions. The complementary nature of law enforcement and education is especially notable. Publicity about new, more stringent laws, about the increased likelihood of being caught or punished, and about the rationale for such laws are often associated with increased compliance.^{21–22–26} Educational campaigns have been found to be especially effective when they are part of a comprehensive, multistrategy, community based approach. For example, the “Saving Lives Program” in Massachusetts reported a 42% decrease in fatal crashes involving alcohol in participating communities.²⁶

Probably the greatest effect of educational campaigns comes in the long term and results from changing societal norms. Such changes in developed countries have been especially useful in allowing more stringent antidrunk driving laws to be passed.^{22–23}

Limitations

Drivers were selected for interview using a convenience sampling method. Those available at their lorry park stations while their vehicles were loading and who were willing to participate were selected but may not be representative of all commercial drivers in Ghana. This possibility is suggested by the drivers’ education levels which tended to be greater than men in the general population.²⁷ There were also better educated than the randomly selected drivers studied in the aforementioned random roadside breathalyzer study,¹⁶ among whom 30% had no formal education, compared with 16% in the current study.

Second, although the focus group discussions were anonymous, participants are likely to have given socially desirable answers. Hence, the extent of the problem of drunk driving would be under-estimated.

Third, the focus group discussions concentrated on bus drivers whereas the earlier study showed impaired driving to be even higher among taxi drivers and truck drivers. For the present, however, given the numbers of lives at stake in buses, concentrating on these drivers first is reasonable.

IMPLICATIONS FOR PREVENTION

Despite these limitations, the data from the focus group discussions provide useful insights into the attitudes of commercial drivers about drunk driving on which we can build.

Most of the drivers recognized drunk driving as a danger and a risk factor for crashes. Hence, there are existing motivations and values to start with—that is, most of the drivers do not need to be convinced that drunk driving is bad. Moreover, there seemed to be widespread support for greater police enforcement in an environment where police are generally not trusted.

Key points

- In many less developed countries, commercial vehicles are the major source of road traffic injury.
- Alcohol impaired driving by commercial drivers is widespread.
- Countermeasures will be aided by understanding the knowledge and attitudes of commercial drivers.
- The majority of commercial drivers understood that drunk driving was a significant risk factor for crashes.
- There was widespread support for increased enforcement of antidrunk driving laws.
- Most drivers believed it was only extremely intoxicated drivers who were the problem.
- There was little understanding of blood alcohol concentration and related legal limits.
- In Ghana, and in other similar countries, commercial drivers are motivated to assist in antidrunk driving measures.

However, some drivers had misperceptions that need to be corrected, as reflected in statements such as that about drinking making one alert behind the wheel. To develop good social marketing strategies, more background research would be needed to better understand these misperceptions. Although a minority of drivers expressed such views, these drivers may be more likely to engage in drunk driving and hence they may be particularly important to target.

Probably the greatest misconception that needs to be addressed in educational campaigns is the under-estimation of the extent of the problem. Two problems existed in this regard. First, the drivers voiced the opinion that only a few drivers drove while intoxicated. This is clearly at odds with the results of the prior roadside breathalyzer survey.¹⁶ Second, there was widespread lack of appreciation of how much alcohol it takes to become an unsafe driver. Although the participants were all people who had consumed alcohol before driving at some time in the past year, they did not appear to recognize this as a problem. Rather, it was other drivers who were felt to be the problem. There appeared to be a sense that a driver was dangerous only if he were extremely drunk. Along the same lines, it is noteworthy that several drivers brought up the topic of breathalyzers. They indicated that they did not understand the implications of what was being measured—the amount of alcohol that could be safely or legally consumed.

A major focus for subsequent development in social marketing campaigns will be to provide specific information on the concept of blood alcohol concentration and its effect at varying levels. Such information will provide a basis for understanding that even small amounts of alcohol can increase the risk of crashes and injury, that is, that it is not just the severely intoxicated drivers who are the problem. It will also promote understanding the legal limits and the rationale behind them. These messages will need to be developed and delivered taking account of the local culture as well as the educational level, background, and the mindset of commercial drivers in Ghana.

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REFERENCES

- 1 **Baker SP**, O'Neill B, Ginsburg MJ, *et al*. *The injury fact book*. 2nd Ed. New York: Oxford University Press, 1992.
- 2 **Murray CJ**, Lopez A. *The global burden of disease, volume 1: a comprehensive assessment of mortality and disability from diseases, injuries and risk factors in 1990 and projected to 2020*. Cambridge: Harvard University Press, 1996.
- 3 **Smith GS**, Barsz P. Unintentional injuries in developing countries: the epidemiology of a neglected problem. *Epidemiol Rev* 1991;**13**:228–66.
- 4 **Zwi A**. The public health burden of injury in developing countries. *Trop Dis Bull* 1993;**90**:R5–45.
- 5 **Krug EG**, Sharma GK, Lozano R. The global burden of injuries. *Am J Public Health* 2000;**90**:523–6.
- 6 **Lund AK**, Wolfe AC. Changes in the incidence of alcohol-impaired driving in the United States, 1973–1986. *J Stud Alcohol* 1991;**52**:293–301.
- 7 **US Department of Health and Human Services**. *Surgeon General's workshop on drunk driving*. Washington, DC: US Department of Health and Human Services, 1988.
- 8 **Odero W**, Garner P, Zwi A. Road traffic injuries in developing countries: a comprehensive review of epidemiologic studies. *Trop Med Int Health* 1997;**2**:445–60.
- 9 **Aguwa CN**, Anosike EO, Akubue PI. Road accidents in Nigeria: level of alcohol in the blood of automobile drivers. *Cent Afr J Med* 1982;**28**:171–4.
- 10 **Lourie J**, Sinha S. Port Moresby road traffic accident survey. *Papua New Guinea Medical Journal* 1983;**26**:126–89.
- 11 **Myers RA**, Taljaard JJ, Penman KM. Alcohol and road traffic injury. *S Afr Med J* 1977;**52**:328–30.
- 12 **Patel NS**, Bhagwatt PP. Road traffic accidents in Lusaka and blood alcohol. *Medical Journal of Zambia* 1977;**11**:46–69.
- 13 **Sinha SN**, Sengupta SK. Road traffic accident fatalities in Port Moresby: a ten-year survey. *Accid Anal Prev* 1989;**21**:297–301.
- 14 **Wyatt GB**. Epidemiology of road accidents in Papua, New Guinea. *Papua New Guinea Medical Journal* 1980;**23**:60–5.
- 15 **Voas RB**, Wells J, Lestina D, *et al*. Drinking and driving in the United States: the 1996 National Roadside Survey. *Accid Anal Prev* 1998;**30**:267–75.
- 16 **Mock CN**, Amegashie J, Asiamah G. Epidemiology of alcohol impaired driving in an African nation. *42nd Annual Proceedings: Association for the Advancement of Automotive Medicine*. Des Plaines, IL: AAAM, 1998: 335–51.
- 17 **Ross HL**. Prevalence of alcohol-impaired driving: an international comparison. *Accid Anal Prev* 1993;**25**:777–9.
- 18 **Mock C**, Amegashie J, Darteh K. Role of commercial drivers in motor vehicle related injuries in Ghana. *Inj Prev* 1999;**5**:268–71.
- 19 **Mock CN**, Forjuoh S, Rivara F. Epidemiology of transport-related injuries in Ghana. *Accid Anal Prev* 1999;**31**:359–70.
- 20 **Asiamah G**. Drunk driving in Ghana. *Daily Graphic* 12 May 1998: 7.
- 21 **Wiliszowski CH**, Lacey JH, Jones RK, *et al*. *Develop and test messages to deter drinking and driving: final report (DTNH22-96-c-05147)*. Washington, DC: National Highway Traffic Safety Administration, 1998.
- 22 **DeJong W**, Hingson R. Strategies to reduce driving under the influence of alcohol. *Annu Rev Public Health* 1998;**19**:359–78.
- 23 **Howland J**. Social norms and drunk driving countermeasures. In: Graham JD, ed. *Preventing automobile injury: new findings from evaluative research*. Dover, MA: Auburn House Publishing Company, 1988: 163–96.
- 24 **National Committee for Injury Prevention and Control**. *Injury prevention: meeting the challenge*. New York: Oxford University Press, 1989.
- 25 **Atkin CK**. Mass communication effects on drinking and driving. In: US Department of Health and Human Services, ed. *Surgeon General's workshop on drunk driving*. Rockville, MD: US Department of Health and Human Services, 1988: 15–34.
- 26 **Hingson R**, McGovern T, Howland J, *et al*. Reducing alcohol-impaired driving in Massachusetts: the Saving Lives Program. *Am J Public Health* 1996;**86**:791–7.
- 27 **Ghana Statistical Service**. *Ghana Demographic and Health Survey: 1993*. Calverton, MD: Macro International Inc, 1994.