

Library Watch on driving

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fall 2009

Traffic accidents, deaths and alcohol consumption.

Arranz JM; Gil AI. *Applied Economics* 41(20): 2583-2595, 2009. (40 refs.)

The main goal of this article is to analyse the relationship existing among prices of alcoholic beverages, alcohol consumption and traffic fatalities for the Spanish Autonomous Communities during the time interval 1998 to 2002. Among the main results, we highlight a positive correlation between alcohol consumption and traffic mortality rate. Basically, governments implement two kinds of policies to reduce the traffic mortality rate. One is oriented to control the supply of alcohol by increasing alcohol taxes. The other is oriented to preserve traffic security, increasing the number of sanctions for traffic rule infraction. We find evidence that both policies exert a positive influence in the reduction of traffic fatalities. There is no empirical evidence to indicate that being a novice driver increases the tendency to be involved in a mortal traffic accident. Copyright 2009, Taylor & Francis.

A review of risk factors and patterns of motorcycle injuries. (review).

Lin MR; Kraus JF. *Accident Analysis and Prevention* 41(4): 710-722, 2009. (219 refs.)

Per vehicle mile traveled, motorcycle riders have a 34-fold higher risk of death in a crash than people driving other types of motor vehicles. While lower-extremity injuries most commonly occur in all motorcycle crashes, head injuries are most frequent in fatal crashes. Helmets and helmet use laws have been shown to be effective in reducing head injuries and deaths from motorcycle crashes. Alcohol is the major contributing factor to fatal crashes. Enforcement of legal limits on the blood alcohol concentration is effective in reducing motorcycle deaths, while some alcohol-related interventions such as a minimal legal drinking age, increased alcohol excise taxes, and responsible beverage service specifically for motorcycle riders have not been examined. Other modifiable protective or risk factors comprise inexperience and driver training, conspicuity and daytime headlight laws, motorcycle licensure and ownership, riding speed, and risk-taking behaviors. Features of motorcycle use and potentially effective

prevention programs for motorcycle crash injuries in developing countries are discussed. Finally, recommendations for future motorcycle-injury research are made. Copyright 2009, Elsevier Science.

Benzodiazepine use and driving: A meta-analysis.

Rapoport MJ; Lanctot KL; Streiner DL; Bedard M; Vingilis E; Murray B et al. *Journal of Clinical Psychiatry* 70(5): 663-673, 2009. (56 refs.)

Objective: The purpose of the present study was to examine the experimental and epidemiologic evidence linking benzodiazepine use to driving impairment. Data Sources: We searched MEDLINE, PsycINFO, the Cochrane Collaboration, and EMBASE using the key terms ("benzodiazepines". OR "exp benzodiazepines") AND ("automobile driving" OR "accidents, traffic" OR "driving" OR "driver\$") and limited the results to English citations from 196,6 to August 5, 2005, with auto-updates for MEDLINE and PsycINFO to November 30, 2007. Study Selection and Data Extraction: Experimental studies using driving simulators and on-road tests were sought, as were epidemiologic studies of a case-control or cohort design. Data were extracted by blinded raters and pooled using random-effects models. We excluded studies without control groups or without measures of driving or collisions. Studies with driving measures that could not be combined were also excluded. Data Synthesis: Of 405 potential articles, 11 epidemiologic and 16 experimental studies were included in the meta-analysis. Associations between motor vehicle collisions (MVCs) and benzodiazepine use were found among 6 case-control studies (OR = 1.61, 95% CI = 1.21 to 2.13, $p < .001$), and 3 cohort Studies (OR = 1.60, 95% CI = 1.29 to 1.97, $p < .0001$). Only 10 of 97 experimental driving variables could be pooled for analysis. While no consistent findings were observed in studies using driving simulators, increased deviation of lateral position was found on on-road driving tests (standardized mean difference = 0.80, 95% CI = 0.35 to 1.25, $p = .0004$). Conclusions: Benzodiazepine users were found to be at a significantly increased risk of MVCs compared to nonusers, and these differences may be accounted for by a difficulty in maintaining road position. Copyright 2009, Physicians Postgraduate Press.

Driving among drug users: Are we doing enough? A chart review of assessment of driving and related issues in drug misusers. (review).

Thangavelu K; Rhinds D. *Drugs: Education, Prevention and Policy* 16(3): 266-272, 2009. (14 refs.)
 Aim: Driving among drug users is a major health concern. Professionals working in substance misuse service have a duty of care to manage the risks involved. We analysed the practice of multidisciplinary team in drug treatment service discussing driving with the patient and providing them with relevant information regarding the regulations. We compared this practice with the existing policies and guidelines. Method: A chart review of healthcare professionals in the drug treatment services discussing driving and related issues with the patient was carried out. One hundred case records were analysed for evidence of documentation of the above information. Results: A clear record of discussion of all driving-related issues was documented in only 28% of records reviewed. In more than half of the cases there was no record as to whether the patient was driving or not. Conclusions: The results raised some ethical questions that would influence the policy makers and practitioners. These findings suggest that major changes are needed in our practice both for our legal protection and for the best interests of patients and public. Copyright 2009, Taylor & Francis.

Media coverage of celebrity DUIs: Teachable moments or problematic social modeling?

Smith KC; Twum D; Gielen AC. *Alcohol and Alcoholism* 44(3): 256-260, 2009. (26 refs.)
 Aim: Alcohol in the media influences norms around use, particularly for young people. A recent spate of celebrity arrests for drinking and driving (DUI) has received considerable media attention. We asked whether these newsworthy events serve as teachable moments or problematic social modeling for young women. Method: Qualitative analysis of US media coverage of four female celebrities (Michelle Rodriguez, Paris Hilton, Nicole Richie and Lindsay Lohan) was conducted over the year following their DUI arrest (December 2005 through June 2008). The media sample included five television and three print sources and resulted in 150 print and 16 television stories. Results: Stories were brief, episodic and focused around glamorous celebrity images. They included routine discussion of the consequences of the DUI for the individual celebrities without much evidence of a consideration of the public health dimensions of drinking and driving or possible prevention measures. Conclusions: Our analysis found

little material in the media coverage that dealt with preventing injury or promoting individual and collective responsibility for ensuring such protection. Media attention to such newsworthy events is a missed opportunity that can and should be addressed through media advocacy efforts. Copyright 2009, Oxford University Press.

Opium consumption and the risk of traffic injuries in regular users: A case-crossover study in an emergency department.

Majdzadeh R; Feiz-Zadeh A; Rajabpour Z; Motevalian A; Hosseini M; Abdollahi M et al. *Traffic Injury Prevention* 10(4): 325-329, 2009. (30 refs.)
 Objective. The cause-specific annual death rate due to traffic injuries is around 30 in 100,000 in Iran. On the other hand, this country has the highest proportion of opiate users in the world. Little is known about the transient effect of opium on traffic injuries. The objective of this study was to explore the effect of opium consumption on traffic injuries in drivers who use opium. Methods. Seventy-five regular opium users who suffered traffic injuries were studied in a case-crossover investigation. The study subjects had been admitted to the single trauma emergency department in Kerman, a city in southeast Iran. The relative risk (RR) of short-term opium effect was estimated by considering frequency of driving after opium consumption during 6 hours before the accident in comparison to the usual frequency of driving after opium consumption by the same persons. Stratified data analysis was performed by the Mantel-Haenszel method. Results. The opium consumption of drivers up to 6 hours before the accident was associated with an increased RR = 3.2, 95 percent confidence interval (CI): 1.9, 5.4. The third hour after consumption had the greatest magnitude of effect considering RR = 4.29, 95 percent CI: 2.65, 6.95. Conclusions. These results suggest a heightened risk of traffic injuries after opium consumption in regular users. The RR in the third hour after consumption could be explained by considering the greater probability of driving compared to the immediate hours after use, rather than peak effect time of opiates. The results indicate necessity of regular assessment of all common drivers, especially truck and bus drivers, regarding use of opium. Copyright 2009, Taylor & Francis.

Psychoactive medication and traffic safety.

Verster JC; Mets MAJ. *International Journal of Environmental Research and Public Health* 6(3): 1041-1054, 2009. (29 refs.)
 Driving a car is important to maintain independence and participate in society. Many of those who use

psychoactive medication are outpatients and are thus likely to drive a vehicle. Most common adverse effects that impair driving are reduced alertness, affected psychomotor functioning and impaired vision. This review discusses the effects on driving ability of most commonly prescribed psychoactive drugs, including hypnotics, antidepressants, antihistamines, analgesics and stimulant drugs. Within these categories of medicines significant differences concerning their impact on driving ability are evident. The International Council on Alcohol, Drugs and Traffic Safety (ICADTS) categorization can help physicians to make a choice between treatments when patients want to drive a car. Copyright 2009, Molecular Diversity Preservation.

Public attitudes to laws for smoke-free private vehicles: A brief review. (review).

Thomson G; Wilson N. *Tobacco Control* 18(4): 256-261, 2009. (67 refs.)

As smoke-free car policy is a frontier domain for tobacco control, attitudes to smoke-free private car laws are briefly reviewed. Medline and Google Scholar searches for the period up to mid-November 2008, from English language sources, were undertaken. Studies were included that contained data from national and subnational populations (eg, in states and provinces), but not for smaller administrative units, eg, cities or councils. Jurisdiction, sample size and survey questions were assessed. One reviewer conducted the data extraction and both authors conducted assessments. A total of 15 relevant studies (from 1988) were identified, set in North America, the UK and Australasia. The available data indicates that, for the jurisdictions with data, there is majority public support for laws requiring cars that contain children to be smoke free. There appears to be an increase over time in this support. In five surveys in 2005 or since (in California, New Zealand and Australia), the support from smokers was 77% or more. The high levels of public (and smoker) support for smoke-free car laws found in the studies to date suggest that this can be a relatively non-controversial tobacco control intervention. Survey series on attitudes to such laws are needed, and surveys in jurisdictions where the issue has not been investigated to date. Copyright 2009, BMJ Publishing Group.

Which young people accept a lift from a drunk or drugged driver?

Calafat A; Adrover-Roig D; Blay N; Juan M; Bellis M; Hughes K et al. *Accident Analysis and Prevention* 41(4): 703-709, 2009. (32 refs.)

Introduction: Riding with a drunk and/or a drugged driver (RDD) is a risk behaviour that has received very

little attention in spite of its potential dangers. Young people involved in the recreational nightlife context are especially at risk. Method: 1363 regular users of recreational nightlife from nine European Countries (mean age: 21.75; 51.5% women) filled out a self-administered and anonymous questionnaire (in 2006). Results: 37.2% had practised RDD during the previous month. RDD is related to drunkenness and use of drugs, personality factors such as impulsivity, preferring to use a private car to get to nightlife venues, living in a southern European Country and being unemployed. No significant influence was found for age, gender, educational level or socioeconomic status. Discussion: It is important to raise awareness about the high prevalence of RDD. This lack of awareness can be related to its social acceptance among young people. The use of private cars for going to nightlife venues should be discouraged. Copyright 2009, Elsevier Science.

Screening for drugs in oral fluid: Drug driving and illicit drug use in a sample of Queensland motorists.

Davey J; Freeman J. *Traffic Injury Prevention* 10(3): 231-236, 2009. (28 refs.)

Objective: Random roadside oral fluid testing is becoming increasingly popular as an apprehension and deterrence-based countermeasure to reduce drug driving. This article outlines research conducted to provide an estimate of the extent of drug driving in a sample of drivers in Brisbane, Queensland. Methods: Oral fluid samples were collected from 1587 drivers who volunteered to participate at random breath testing (RBT) sites. Illicit substances tested for included cannabis (delta 9 tetrahydrocannabinol [THC]), meth/amphetamines, and cocaine. Drivers also completed a self-report questionnaire regarding their drug-related driving behaviors. Results: Oral fluid samples from 58 participants (3.7%) were confirmed positive for at least one illicit substance. The most common drugs detected in oral fluid were ecstasy (n = 35) followed by cannabis (n = 20). Similarly, cannabis was confirmed as the most common self-reported drug combined with driving. Nevertheless, individuals who tested positive to any drug through oral fluid analysis were also more likely to report the highest frequency of drug driving. Conclusions: This research provides evidence that drug driving is relatively prevalent on some Queensland roads, and thus the behavior presents as a serious road safety threat. This article will further outline the study findings and present possible directions for future drug driving research. Copyright 2009, Taylor & Francis.

Alert eyes and DWIs: An indirect evaluation of a DWI witness reward program in Stockton, CA.

Van Vleck VNL; Brinkley GL. *Accident Analysis and Prevention* 41(3): 581-587, 2009. (35 refs.)

We evaluate a "grassroots" anonymous reward program targeting drunken driving in Stockton, CA. The time-series cross-sectional data covers 19 years for Stockton and six other California cities. Exploiting interrupted time-series regression, Zellner's seemingly unrelated regression (SUR) framework, and bootstrapped standard errors, we test for an impact of this program on alcohol-related injury or fatality accidents, the proportion of all accidents involving alcohol, and the number of DWI arrests. In its first decade, the citizen reward program appears to have averted some 275 alcohol-related accidents for social cost savings of between \$21,000 and \$5.6 million. Further, possibly 4495 arrests were precluded, saving some \$1-3 million in arrest-related costs. Incentivized public monitoring of driving-after-drinking may be an effective drunken driving abatement program though our exploratory findings need further confirmation. Copyright 2009, Elsevier Science.

Changes in alcohol-involved fatal crashes associated with tougher state alcohol legislation.

Fell JC; Fisher DA; Voas RB; Blackman K; Tippetts AS. *Alcoholism: Clinical and Experimental Research* 33(7): 1208-1219, 2009. (50 refs.)

Background: This study used a pre- to post-design to evaluate the influence on drinking-and-driving fatal crashes of 6 laws directed at youth aged 20 and younger and 4 laws targeting all drivers. Methods: Data on the laws were drawn from the Alcohol Policy Information System data set (1998 to 2005), the Digests of State Alcohol Highway Safety Related Legislation (1983 to 2006), and the Westlaw database. The Fatality Analysis Reporting System data set (1982 to 2004) was used to assess the ratio of drinking to nondrinking drivers involved in fatal crashes [fatal crash incidence ratio (CIR)]. The data were analyzed using structural equation modeling techniques. Results: Significant decreases in the underage fatal CIR were associated with presence of 4 of the laws targeting youth (possession, purchase, use and lose, and zero tolerance) and 3 of the laws targeting all drivers (0.08 blood alcohol concentration illegal per se law, secondary or upgrade to a primary seat belt law, and an administrative license revocation law). Beer

consumption was associated with a significant increase in the underage fatal CIR. The direct effects of laws targeting drivers of all ages on adult drinking drivers aged 26 and older were similar but of a smaller magnitude compared to the findings for those aged 20 and younger. It is estimated that the 2 core underage drinking laws (purchase and possession) and the zero tolerance law are currently saving an estimated 732 lives per year controlling for other exposure factors. If all states adopted use and lose laws, an additional 165 lives could be saved annually. Conclusions: These results provide substantial support for the effectiveness of under age 21 drinking laws with 4 of the 6 laws examined having significant associations with reductions in underage drinking-and-driving fatal crashes. These findings point to the importance of key underage drinking and traffic safety laws in efforts to reduce underage drinking-driver crashes. Copyright 2009, Research Society on Alcoholism.

Acute alcohol tolerance on subjective intoxication and simulated driving performance in binge drinkers.

Marczinski CA; Fillmore MT. *Psychology of Addictive Behaviors* 23(2): 238-247, 2009. (57 refs.)

High rates of binge drinking and alcohol-related problems, including drinking and driving, occur among college students. Underlying reasons for the heightened impaired driving rates in this demographic group are not known. The authors, hypothesized that acute tolerance to the interoceptive cues of intoxication may contribute to these maladaptive decisions to drive in binge drinkers. Groups of binge-drinking and non-binge-drinking college students (N = 28) attended sessions during which they received a moderate dose of alcohol (0.65 g/kg) or a placebo. The development of acute tolerance to subjective ratings of intoxication and simulated driving performance was assessed by comparing measures taken during the ascending phase and descending phases of the blood alcohol curve. Compared with placebo, alcohol increased ratings of intoxication and impaired multiple aspects of simulated driving performance in both binge and non-binge drinkers. During the descending phase of the blood alcohol curve, binge drinkers showed acute tolerance to alcohol's effect on subjective intoxication, and this effect was accompanied by an increased rating of willingness to drive. By contrast, non-binge drinkers showed no acute tolerance. Copyright 2009, Educational Publishing Foundation.