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Mopeds: the legal loophole for repeat driving while intoxicated offenders

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Abstract

BACKGROUND: Mopeds have less stringent licensing laws than automobiles. Moped operators in motorized vehicle collisions (MVCs) exhibit significantly higher rates of driving while intoxicated (DWI) and higher blood alcohol levels than automobile or motorcycle operators. This study evaluates the public safety issue of DWI recidivism among moped operators.

METHODS: Moped operators evaluated after MVCs were identified from 2007 to 2009. Demographics, hospital data, and Department of Motor Vehicles records were reviewed.

RESULTS: Sixty-five moped operators were evaluated. Thirty-two (49%) had a positive blood alcohol level, 29 (45%) had a previous DWI, and 21 (72%) of those were repeat offenders. Twenty-five (38%) had a revoked license at the time of injury. Of these, 19 (76%) incurred multiple revocations. Twenty-two (34%) showed prior charges of driving with a revoked license (DWRL), with 15 (68%) incurring multiple DWRL charges.

CONCLUSIONS: Moped operators are often intoxicated at the time of injury and represent a public safety hazard. The majority are recidivists with multiple alcohol-related traffic charges. Current laws allow repeat offenders the sustained opportunity to operate motorized vehicles. Re-evaluation of current moped laws is needed to keep habitual offenders off the road.

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As trauma care continues to improve with increased survival rates and decreased morbidity, our focus has widened to include injury prevention as a priority for reducing trauma-related morbidity and mortality.¹ Recent data suggest that targeted screening and intervention may reduce alcohol-related injuries and death. The Center for Disease Control has identified "impaired driving" as an area of injury prevention that requires attention.² Alcohol has consistently been involved in 40% to 50% of motor vehicle collision deaths annually¹ and is implicated in nearly 50%

of trauma admissions annually.³ Additionally, driving while intoxicated (DWI) recidivism continues to pose a challenge for both health care and legal systems. It has been shown that of those convicted of DWI, 33% will become recidivists within 2 years.⁴

Christmas et al⁵ previously described a population of patients who were more likely to be intoxicated at the time of injury, moped operators. When comparing rates of intoxication between moped, motorcycle, and automobile operators, moped operators were found to be intoxicated significantly more frequently than the other 2 groups (moped 39%, motorcycle 25%, automobile 23%; $P = .0004$). Moped riders also exhibited significantly higher blood alcohol content (BAC) levels.⁵ Although moped licensure laws vary

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from state to state, many states do not require a license to operate a moped. Furthermore, several states allow an individual to obtain a moped license regardless of eligibility for or status of their driver's license.⁶

Given the inconsistency and laxity in moped licensure laws and the concerning association between alcohol intoxication and moped operators, we conducted this study to evaluate the rates of DWI recidivism in this population. We hypothesize that rates of DWI recidivism among moped operators are high, and this group of individuals represents an ongoing public safety issue.

Materials and methods

We conducted an institutional review board–approved retrospective review of the trauma registry at Carolinas Medical Center over a 3-year period. We identified all moped operators evaluated by the trauma department from 2007 to 2009. Carolinas Medical Center is a regional level I trauma center serving an area of 6,147 square miles and a population of over 3 million residents of North Carolina and South Carolina. Data accumulation included demographics, hospital data, and BAC levels. Additionally, the Department of Motor Vehicles records were queried for moped operators using a public computer search. Prior traffic violations, DWI convictions, and license revocations were identified and recorded.

Results

During the course of the study, 65 moped operators were evaluated by the trauma service. The majority (85%) of patients were men, with a mean age of 42 years. The average hospital stay was 12 days, and the average intensive care unit length of stay was 3.8 days. The average admission Glasgow Coma Scale and Injury Severity Score was 12.5 and 15.6, respectively. The overall mortality rate was 9.2%. Thirty-two (49%) patients had an elevated BAC level at the time of the initial emergency department evaluation.

The Department of Motor Vehicles record results are summarized in Table 1. Upon review, 49 patients (75%) had a criminal record of some kind at the time of injury. More specifically, 37 patients (57%) had a prior traffic violation,

and 29 (45%) had a prior DWI. We evaluated all patients who had a prior DWI conviction, revoked license at the time of collision, or a prior charge of driving with license revoked and found that most of these individuals were repeat offenders with multiple convictions.

Comments

Focused efforts on injury prevention are required for sustained improvement in all aspects of trauma care. Alcohol-related motor vehicle collisions have been estimated at 2.6 million occurrences annually, with a detrimental impact on over 4 million individuals.⁷ Furthermore, DWI recidivism is a known problem, and prior reports have shown that legally impaired drivers involved in fatal crashes are 8 times more likely to have a prior DWI conviction than drivers who had not been drinking.⁸ Although the most effective method to reduce DWI recidivism is a combination of alcohol treatment and legal sanctions, the conviction rates of intoxicated drivers are generally low, ranging from 0% to 60%.^{9–11} Unfortunately, conviction rates are especially low when the intoxicated driver is injured and admitted to the hospital for treatment.¹²

Our study identifies multiple issues and raises many questions related to DWI recidivism. First, the moped provides recidivists with an alternative mode of transportation for repeat DWIs. In this study, we found that nearly half of all moped operators were intoxicated at the time of their injury. This is higher than the rates observed in our previous study.⁵ Second, current laws do not address this issue, and moped licensure laws are too lenient for DWI offenders. Finally, we have identified a patient population that continues to operate a motorized vehicle while intoxicated despite multiple prior offenses. Even more disconcerting is that they are able to do this within the scope of the present laws.

Our data suggest that mopeds should be included as a form of a motorized vehicle when evaluating licensure and DWI laws, injury prevention, and trauma services. Our previous study showed that individuals involved in moped collisions had similar Injury Severity Score and mortality rates as those involved in automobile or motorcycle collisions.⁵ As such, moped collisions may result in serious injuries and should constitute a public health concern. Although these individuals are often involved in single-vehicle collisions and do not represent as high a risk to others on the road as intoxicated automobile drivers, their injuries require hospital admission and treatment. This ultimately impacts health care resources and utilization, which indirectly affects everyone.

Our findings suggest that DWI and licensure laws regarding moped operation should be re-evaluated. However, we cannot help but wonder if prohibiting individuals with prior DWI charges or revoked licenses from obtaining a legal moped license will have a significant impact on this population. As shown, 72% of repeat offenders have multiple DWI convictions, and 76% of those operating a moped

Table 1 Criminal and driving records

	N = 65 (%)
Prior criminal record	49 (75)
Prior traffic offense	37 (57)
Prior DWI	29 (45)
Repeat offender DWI	21 (72)
Revoked license at injury	25 (38)
Repeat offender revoked license	19 (76)
Prior DWLR	22 (34)
Repeat offender DWLR	15 (68)

with a revoked license have incurred multiple revocations in the past. Clearly, our current legal and health care systems have had little impact on this group of patients. We must ask ourselves at what point does the current system fail? Is the legal penalty for an individual's initial DWI charge appropriate or should it be more severe? Should all of these individuals be referred to a social worker for an alcohol intervention? If an individual is injured and treated at the time of the DWI charge, what measures are required of the health care team to prevent future intoxicated driving? Is the legal penalty at one's 2nd offense appropriate? When should these individuals be referred to the health care system for organized counseling? For the repeat offender, there were multiple opportunities to intervene in hopes of preventing an additional offense. However, until we can identify the point where the system fails, we cannot focus our efforts appropriately.

Many studies have shown that a brief alcohol intervention for intoxicated drivers reduces recidivism rates and binge drinking episodes.^{4,13} Unfortunately, there are many barriers to accomplishing an alcohol intervention in hospitalized patients. Some of these limitations include the lack of appropriately trained health care workers to deliver the intervention, a lack of financial resources, and time constraints. Despite these barriers, Gentilello et al¹⁴ have shown a net cost savings of \$89 per patient screened and an estimated potential net savings of \$1.82 billion annually. This analysis included costs of professional expenses, time, and materials.

The other component required to effectively reduce recidivism is legal sanctions. As previously stated, a large number of injured, intoxicated drivers escape DWI conviction. Reasons for this are multifactorial. Some suggestions include sympathy for the injured driver, logistical issues for law enforcement, unavailability of legally usable BAC determinations, insufficient number of prosecutors, and patient-doctor confidentiality.¹¹ Chang et al¹⁵ reviewed the conviction process of injured, intoxicated drivers admitted to Lehigh Valley Hospital. Although that study described arrest and conviction rates of 73% and 94%, respectively, such high arrest and conviction rates are not comparable to most of the other studies. These high arrest and conviction rates were attributed to 2 main changes in the conviction process. The first is the presence of a specialized assistant district attorney whose sole responsibility is managing DWI arrests. The second is a toxicology laboratory that is physically connected to a DWI processing center, which simplifies the work involved in prosecuting DWI offenders. Although the dedicated infrastructure at Lehigh Valley Hospital has improved conviction rates, the study did not address whether higher conviction rates led to a reduction in recidivism rates.

As with any clinical study, we acknowledge several limitations. Limitations of this study include its retrospective design and its restriction to a small geographic region. Additionally, this study lacks information regarding alcohol intervention in injured patients as well as information regarding actual legal penalties served by those convicted.

DWI penalties vary from state to state, and the actual penalties in jail time or monetary fines can vary significantly as well.¹⁶ Knowledge of the actual punishment served by those individuals who were convicted would add valuable information to the evaluation of this patient population.

Conclusions

In this study, we have confirmed that a large percentage of intoxicated moped operators are repeat offenders with multiple DWI charges. We suggest that the current health care and legal systems have failed these patients with appropriate penalties and/or counseling to deter further episodes of intoxicated driving. To reduce recidivism rates and have a meaningful impact on injury prevention, the health care and legal systems must collaborate to re-examine the current processes in efforts to identify a solution for the recidivist offender.

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Discussion

Dr Daniel Vargo (Salt Lake City, UT): You raise the question of why people break the law. This takes it to a different level though, and I think you are asking a very difficult question. People break the law because it is a thrill to do something that is illegal; some people break the law as a necessity because they have to do something for their families such as driving without a license to get to work, but some people just do it because they are self-centered. They believe that the laws of society do not apply to them. I think this is the group you have identified. As trauma surgeons, often we are at the forefront of looking at these populations and trying to come up with solutions. So, it is difficult to ask you questions about this topic, and you have already answered one of them already because I am in support of everything that you have presented in your article. I think that it is a little bit simplistic the way that you are trying to break things down into 1 single element at a time because these are multifactorial issues that lead people to recidivism, and you somewhat address that in your last slide. I do not think that you can generalize about an entire population of people, people who ride mopeds, because if you look at the recidivism rates of everyone who is involved in alcohol-related injuries, your data are going to be repeated repeatedly. I have 3 questions. Have you looked at the data for recidivism in all of your trauma patients who arrive intoxicated? Do you really think putting a law out there for people who do not follow the law to begin with is really going to be something that is going to be a successful intervention? Finally, just to expand on what you said about this being a population who just has a blatant disregard for society. We have a 3-strike rule for people who are offenders with felonies in certain states where they go to prison and they do not come out for a long time. So, what would you do with these people then? We all see them, people who come in with their 6th DWI, so what would you do with those patients?

Dr Rita A. Brintzenhoff (Charlotte, NC): Thank you for all those questions. In response to the first, in this specific study, we did not look at all other types of vehicles. I assume that we would find a similar subset of automobile and motorcycle operators that would fall into this category of extreme recidivism with multiple repeat offenses as well. I think this specific subset of moped operators is an example of the most extreme, those who have exhausted all other modes of transportation, and the moped is what they are left with. Additionally, our first study published by Dr. Christmas on this subject showed that moped operators involved

in collisions are more often intoxicated than other vehicle operators. These individuals have had multiple offenses. In response to your comment about a more specific subgroup of patients who have a blatant disregard for what is acceptable to society, I completely agree with you. There is a subset of people who just do not really care and continue to break the law, and so will making an additional law help these people and get these people off the road? I do not think I have an answer to that. I do believe though that the system we have now has failed because we have identified people who repeatedly drive while intoxicated despite legal penalty. Is it a failure from a medical, a social, or a legal aspect? I am not sure we have the answer to that right now, but I think it is something that deserves further attention to get these people off the road.

Dr John Aucar (Urbana, IL): In a popular book entitled *Super Freakonomics*, the authors looked at patients who were injured in automobile pedestrian accidents and a subset of those that were intoxicated and found that when you analyze that on a miles traveled basis, it was much more dangerous to walk drunk than it was to drive drunk. The caveat to that is that the severity of injuries sustained by those pedestrians tended to be higher than those injured in automobiles unless it was a very high-speed automobile crash. Have you considered looking at the severity of injuries sustained in people injured in moped accidents? Are they the same or different from motorcycle accidents or perhaps could this be considered a lesser of the evils type situation?

Dr Rita A. Brintzenhoff: In our previous study that was published by Dr. Christmas, we did look at the injury severity scores broken down by moped, motorcycle, or automobile, and they were similar, which was surprising to us. Initially, we thought that a lot of these people likely were not wearing a helmet and they may have higher injuries based on that, but they were traveling at lower speed, and so could also have lesser degree of injuries because of that.

Dr Ed Nelson (Salt Lake City, UT): I have a quick question related to both Dan and John's. I do not know if it pulls them together or not. Because these sort of "bad people" continue to do bad things, how often do they hurt somebody else? There is not the issue of passengers in a car and a car is bigger; it can hurt other people. Because these accidents involve only a single driver, would you ever consider this part of the process of natural selection for these people?

Dr Rita A. Brintzenhoff: I cannot say that I agree with your comment on natural selection specifically. We do not have the specific numbers on if the collisions were single vehicles or multivehicle and if it were a multivehicle accident, if the other people were injured significantly. I think a point that we can all agree on is with an average hospital stay of 12 days and an average intensive care unit stay of 4 days, they are affecting us in some way as far as health care resources and costs, and so even if they might not be physically hurting other people with their collisions, they are contributing to problems with health care.