

Self-reported risk behaviors among offender motorcyclists in Ahvaz City

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Abstract

Introduction: Road traffic accidents are among the most critical public health issues. Many people die on the roads each day and tens of millions sustain nonfatal injuries. The aim of this study is to describe the high-risk behaviors of motorcyclists in which police had to confiscate their motorcycles.

Methods: This cross-sectional study was carried out on 240 motorcyclists in Iran from December 2010 to February 2011. A researcher-created questionnaire was used to collect data on self-reported high-risk behaviors, including passing the crossroads without considering the traffic light, refusing to wear a helmet, performing stunts in the street, and driving in the opposite direction. The collected data was descriptively analyzed.

Results: The mean age of motorcyclists was 29.3 years (SD=8.26). Twenty-six percent (n=62) of the participants did not have a motorcycle driver's license. The analysis of risk behaviors showed that 60.8% (n=146) of the motorcycle drivers usually passed crossroads without considering the traffic light and 20.8% (n=50) performed stunts in the street.

Conclusions: This study indicates that the prevalence of high-risk behaviors among motorcyclists is significant. Health education interventions may inhibit these behaviors, thus reducing the risk of injuries.

Keywords: high-risk behavior, offender motorcyclist, traffic accident

1. Introduction

Road traffic accidents are among the most critical public health issues (1-3). More than 3000 people die each day on the roads and tens of millions sustain nonfatal injuries (2, 4, 5). Road traffic systems are dangerous systems that people deal with on a daily basis (6). In this dangerous and complex system, motorcycle drivers are a priority group to protect from injuries and death in traffic accidents in Iran (7) and other countries (8-10). The World Health Organization reported that, on busy roads, motorcyclists and pedestrians are particularly susceptible to traffic injuries (11). Driving a motorcycle is related to the high risk of death and injury (12, 13), and, in many countries, the number of injured or killed during motorcycle and bicycle riding is rapidly rising (14). The risk of death for two-

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wheel drivers is higher than that in automobiles (15). Study results indicate that motorcyclists' behaviors are typically related to their injuries. Some motorcycle riders put themselves and others at risk (16). Results of a self-reported cross-sectional study revealed that motorcycle riders with a history of injuries were less likely to wear helmets or any other protective equipment (17). Therefore, it is suggested to conduct more studies to understand these behaviors, find ways for its modification, and to evaluate the effectiveness of current policies (18). It is believed that there are enormous gaps in the researches about behavioral theories and models applied to unintentional injury prevention (19). Increasing knowledge about motorcyclists' accident-related risk behaviors is thus an important way to set goals in designing intervention programs and improving road safety. However, there is little recognition of this problem (7). A qualitative study, which was conducted in Iran, indicated that there are seven injury-related risk behaviors among motorcyclists, including performing stunts in the street, disobeying traffic rules, riding after drug or alcohol use, riding without qualifications, not using a helmet while riding a motorcycle, illegally transporting pillion passengers, and transporting cargo (7). Thus, studies regarding types and frequency of these risk behaviors are necessary. Previous studies suggest that it could be useful to indicate the behavioral determinants that increase people's vulnerability to injuries. Such information is likely to shed light on the cause of road traffic injuries among motorcyclists (20). Previous studies have shown that accidents mostly happen to those who previously experienced them, and WHO reported that nearly a quarter of the victims of road traffic accidents requiring admission to a hospital have suffered a traumatic head injury (11). Most of these riders failed to utilize preventive behaviors such as wearing a helmet. The best strategy for reducing such injuries is to correct those behaviors. Tougher traffic law enforcement to save riders and their pillion passengers has been recommended. A motorcycle driver's license and other safe behaviors should be enforced under stronger regulations (19, 21). In Iran, obeying the current traffic laws, including helmet wearing and having a motorcycle driver's license, is mandatory for all motorcyclists (22), but the prevalence of voluntary helmet use is low (23). A study by Paravar et al. showed just 3.1% of injured motorcyclists had used a helmet (4) and most road traffic injuries among motorcyclists are caused by preventable factors. It is seen that law enforcement and punishment or fear of receiving a fine do not always result in corrected behavior (22); some studies have shown that accidents mostly happen to those who had a previous experience. More studies are necessary to understand these behaviors. Thus, which risk behaviors were enacted by riders whose motorcycles have been confiscated by police officers and have paid fines and penalties for the second or third time? This study was carried out to address the risk behaviors among motorcycle riders who attempted offenses and their motorcycles had been re-confiscated by police officers.

2. Material and Methods

This cross-sectional study was conducted to describe injury-related risk behaviors among motorcyclists whose motorcycles were confiscated by police officers in Ahvaz (a city in the south of Iran) from December 2010 to February 2011. The sample was recruited from the Motorcycle Clearance Center of Police Organization. The inclusion criteria were: 1) riding while police have booked their motorcycle; 2) the motorcycle had been booked previously at least one time; 3) the motorcycle had been booked no more than two days prior to interviews; 4) being literate (to be able to read and write); and 5) being interested in participating in the study. In the Mazloomi study (24), the prevalence of risky behavior (lack of helmet use) was $P=0.1$, $\alpha=0.5$, and $d=0.4$. Thus, sample size was calculated at 216. Those who were discharged with their motorcycle, after coordination with the police and obtaining verbal consent, were interviewed. Based on a previous qualitative research (7), a questionnaire, which included items regarding risk behaviors, was used to collect data. The risk behaviors were: 1) not wearing a helmet; 2) performing stunts; 3) disobeying traffic rules, including moving in the opposite direction of street, passing without obeying traffic lights, and riding with exceeding the speed limit; 4) illegally transporting passengers; 5) illegally transporting cargo; and 6) riding a damaged motorcycle. The behaviors were measured using five-point scales (always, often, sometimes, seldom, and never).

Regarding the research ethics, the Motorcycle Clearance Center and Police Center of Ahvaz approved the study to provide opportunities for the informed choices; one of us (NN) explained the study objectives to the motorcyclists and those who volunteered for the study. The volunteer motorcyclists signed a consent form. Data were analyzed using a descriptive fashion. This included reporting of numbers and frequencies.

3. Results

3.1. Characteristics of riders

In all, 240 motorcyclists were approached and entered into the study. The mean age of the motorcyclists was 29.33 (SD=8.26) years (ranging from 16 to 59) and 62.1% (n=149) were married. Most riders (41.7%) had a secondary education. Sixty-two riders (25.8%) did not have a driver's license and 82 riders (35%) were not the owners of the

booked motorcycles, but they were arrested while riding them. Thirty-five percent of motorcyclists had at least one motorcycle accident in the recent year (Table 1).

Table 1. The characteristics of offender motorcyclists (n = 240)

Characteristics		n	%
Age (year)	Mean (SD)	29.33 (8.26)	-
	Range	16-59	-
Education level	Illiterate/Primary	9	3.7
	Secondary school	170	70.9
	Higher education	61	25.4
Marital status	Single	91	37.9
	Married	149	62.1
Riding license	Yes	178	72.2
	No	62	25.8
Motorcycle ownership	Yes	156	65
	No	84	35
Experience of accident in recent year	None	154	66.4
	Once	57	23.7
	Twice	17	7.0
	Three times or more	12	2.9

3.2. Risk behaviors

Overall, 60.8% of riders reported that they passed traffic lights without considering the traffic red light during the recent week. Only 14.2% (n=34) of riders reported that they did not ride a motorcycle without using a helmet. More than 20% performed stunts, including wheel spins and wheel stands, during the recent weeks. More than 95% of motorcyclists reported that they illegally transported passengers and, similarly, more than 87% reported that they illegally transported cargo. Detailed results are shown in Table 2.

Table 2. Risky behaviors committed by offender motorcyclists (n = 240)

Risky behavior	Never, n (%)	Seldom, n (%)	Sometimes, n (%)	Often, n (%)	Always, n (%)	Sum*	Rank**
Passing crosses without considering the traffic red light	94 (39.2)	63 (26.3)	61 (25.4)	18 (7.5)	4 (1.7)	945	5
Performing stunts	189 (78.75)	25 (10.4)	15 (6.3)	7 (2.9)	4 (1.7)	1159	9
Moving in the opposite direction	104 (43.3)	69 (28.8)	47 (19.6)	16 (6.7)	4 (1.7)	1108	8
Not wearing a helmet	55 (22.9)	82 (34.2)	52 (21.7)	17 (7.1)	34 (14.2)	973	7
Riding motorcycle after consuming alcohol	220 (91.7)	4 (1.7)	13 (5.4)	1 (0.4)	2 (0.8)	827	3
Riding motorcycle after using recreational drugs	220 (91.7)	4 (1.7)	13 (5.4)	1 (0.4)	2 (0.8)	1159	10
Using cell phone while riding motorcycle	69 (28.8)	83 (34.6)	68 (28.3)	16 (6.7)	4 (1.7)	917	4
Illegally transport passenger	10 (4.2)	25 (10.4)	107 (44.6)	72 (30.0)	26 (10.9)	686	1
Illegally transport cargos	31 (12.9)	46 (19.2)	114 (47.5)	33 (13.8)	16 (6.7)	763	2
Riding a damaged motorcycle	93 (38.8)	69 (28.8)	62 (25.8)	13 (5.4)	3 (1.2)	956	6

*Total scores for each risk behavior (Never: 5, Seldom: 4, Sometimes: 3, Often: 2, Always: 1), **Ranking of risky behaviors (1: most, 10: least).

4. Discussion

This study reported on risk behaviors among offender motorcyclists. The findings indicate that some riders were in their thirties and, in fact, were not joy riders, as typically seen in teenagers. People in this age group, generally, are married and responsible for caring for a family; thus, severe injuries and deaths among this population might cause extra costs and burdens to families and the community (23, 25). Younger motorcyclists believed that risky riding is a way to achieve enjoyment and increase the attention and acclamation of their friends (26). This study shows that 35% of riders did not have a driver's license. In a cross-sectional study on 299 commercial motorcyclists in Igboora, mean age was 27.4 ± 7.4 years and 61.2% had a driver's license (27). It seems that not only do traffic police take this problem seriously but that family members should be educated by public media to prevent loved ones from riding a motorcycle without having the proper license. Passing the cross roads without considering the red light also was reported by more than 50% of the riders. This is a serious problem for motorcyclists and for pedestrians. Perhaps the police should take more responsibility to tackle this problem because this usually happens in front of police. The Iranian parliament approved a new bill for two-wheel drivers, which mandated using standard helmets. The finding from this study indicated that police confiscated 85% of riders because they were still not using a helmet. In some studies, all (100%) motorcyclists did not use any helmet (27). In a previous study in Iran, only 10% of motorcyclists used a standard helmet (28). However, unhelmeted motorcyclists are more likely to suffer fatal head trauma than helmeted riders when involved in a road traffic accident (26). The results also demonstrated that 70% of riders had performed stunts during the week before the study. Stunt behaviors such as wheel spins and wheel stands usually are seen among teenagers or youngsters, but, in this study, even married adults performed such behaviors. It seems we need more investigations to find out what really causes riders perform these behaviors. As suggested, the enormous gaps exist in the research on the behavior theories and models applied to prevent the risks (19). Studies have shown that two-wheel drivers face higher risks of death and injury (12, 13) and some riders not only put themselves at risk but others, particularly pedestrians (11, 16). We have to design education programs for riders and pedestrians. Overall results of this study showed that not using a standard helmet, passing red lights, not having a driver's license, wheel spinning and wheel standing, riding in the opposite direction, illegally transport passengers and cargos, riding and exceeding the speed limit are the main risk behaviors among riders whose motorcycles were confiscated by police. While a descriptive study may limit the identity of factors related to risk behaviors, in this paper, researchers were not aiming to identify a list of reasons that could influence behaviors of motorcyclists, as is the case in analytical or interventional research. Instead, the goal of the present study is to gain an understanding of the frequency of risk behaviors among offending motorcyclists.

5. Conclusions

The findings in this study indicate that risk behaviors among motorcyclists are relatively high. For preventing risk behaviors and related traffic injuries, further studies are needed in order to identify the causes of these behaviors among Iranian motorcyclists. Findings of studies in other communities could not be used directly in Iran because each country has its own problems in traffic culture, as noted by Özkan (29). Indeed, designing community-based health education interventions seem necessary to prevent risk of injuries and deaths among this population.

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Conflict of Interest:

There is no conflict of interest to be declared.

Authors' contributions:

All authors contributed to this project and article equally. All authors read and approved the final manuscript.

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