



Dominant role of drivers' attitude in prevention of road traffic crashes: A study on knowledge, attitude, and practice of drivers in Iran



Ramazan Mirzaei^a, Nima Hafezi-Nejad^b, Mohammad Sadegh Sabagh^b,
Alireza Ansari Moghaddam^a, Vahid Eslami^{b,c}, Fatemeh Rakhshani^{a,e,**},
Vafa Rahimi-Movaghar^{b,d,*}

^a School of Medicine/Public Health, Zahedan University of Medical Sciences (ZUMS), Zahedan, Iran

^b Sina Trauma and Surgery Research Center, Tehran University of Medical Sciences (TUMS), Tehran, Iran

^c Students' Scientific Research Center (SSRC), Tehran University of Medical Sciences (TUMS), Tehran, Iran

^d Research Center for Neural Repair, University of Tehran, Tehran, Iran

^e Safety Promotion and Injury Prevention Research Center, School of Public Health, Shahid Beheshti University of Medical Sciences, Tehran, Iran

ARTICLE INFO

Article history:

Received 10 July 2013

Received in revised form

28 December 2013

Accepted 12 January 2014

Keywords:

Drivers

Road traffic crashes

Knowledge

Attitude

Practice

Prevention

ABSTRACT

Objective: Evaluating the relation between Iranian drivers' knowledge, attitude, and practice (KAP) regarding traffic regulations, and their deterministic effect on road traffic crashes (RTCs).

Setting: Two cities of Tehran and Zahedan, Iran.

Methods: A cross-sectional study was designed. Using a simplified cluster sampling design, 2200 motor vehicle drivers including 1200 in Tehran and 1000 in Zahedan were selected. Sixty locations in Tehran and 50 in Zahedan were chosen. In each pre-identified location, 20 adult drivers were approached consecutively. A questionnaire developed by researchers was filled by each participant. The questionnaire had four sections including items assessing the demographics, knowledge, attitude and practice of drivers toward traffic regulations. Logistic regression analysis was used to evaluate the relationship between the RTCs and KAP variables.

Results: The study sample consisted of 619 (28.1%) occupational and 1580 (71.8%) private drivers. Among them, 86.4% were male. The median age was 33.6 ± 10.83 . Drivers in Tehran and Zahedan had no significant differences between their mean scores of KAP items of the questionnaire. Higher knowledge, safer attitude, and safer practice were associated with a decreased number of RTC. After adjusting for possible confounders, increase of one standard deviation in attitude and practice scores (but not knowledge) resulted in 26.4% and 18.5% decrease in RTC, respectively. Finally, considering knowledge, attitude and practice of drivers in one model to assess their mutual effect, it was shown that only attitude is significantly associated with a decrease of RTC (OR = 0.76, $P = 0.007$).

Conclusion: Increase in attitude and practice accompanied with decreased number of RTCs in Iranian drivers. Specifically, drivers' attitude had the crucial effect. It is not knowledge and standard traffic education; rather it is how such education is registered as an attitude that translates what is being learned into actions. Without safer attitude, even safer self-reported practice will not result in lower RTCs.

© 2014 Elsevier Ltd. All rights reserved.

1. Introduction

1.1. Background

An estimated number of 1.2 million people are killed and 50 millions are annually injured in road traffic crashes (RTCs) in the world. This will increase by about 65% over the next 20 years (Peden and Sminkey, 2004). RTC is of the main causes of disability adjusted life years (DALY) both in developed and developing countries (Rasouli et al., 2008; Rahimi-Movaghar et al., 2009). The great burden of RTC describes the need for new studies to unveil its epidemiology, associated factors and preventive strategies (Rahimi-Movaghar, 2010; Moradi et al., 2012).

* Corresponding author at: Sina Trauma and Surgery Research Center, Sina Hospital, Hassan-Abad Square, Imam Khomeini Avenue, Tehran University of Medical Sciences, Tehran 11365-3876, Iran. Tel.: +98 915 342 2682/216 671 8311; fax: +98 216 670 5140.

** Corresponding author.

E-mail addresses: rammir277@yahoo.com (R. Mirzaei), nimahn@gmail.com (N. Hafezi-Nejad), mssabagh@gmail.com (M. Sadegh Sabagh), ansarialireza@yahoo.com (A. Ansari Moghaddam), vahideslaami@gmail.com (V. Eslami), rakhshanif@gmail.com (F. Rakhshani), v.rahimi@sina.tums.ac.ir, v.rahimi@yahoo.com, v.rahimi@tums.ac.ir (V. Rahimi-Movaghar).

1.2. Role of knowledge, attitude and practice in RTC

Previous studies have emphasized on high risk driving as a key factor in the occurrence of RTCs (Evans, 1996, 2003; Redelmeier et al., 2003). Since inappropriate attitude correlates with risky behavior, drivers' attitudes toward traffic safety would be an effective determinant of RTC (Nabi et al., 2007). Prior studies have elucidated the role of drivers' behavior (also called as drivers' practice) on RTCs. Low practice scores, even in the self-reported questionnaires, were associated with up to 1.5 times more risk of RTC (Ivers et al., 2009).

In all, it is proposed that knowledge, attitude, and practice (KAP) of drivers toward traffic regulations, can be the most important determinants of RTCs (Wang et al., 2012; Iversen and Rundmo, 2004; Ali et al., 2011; Moradi et al., 2012).

Many behavioral features including the acceptance of higher levels of risk, sensation seeking, prestige seeking, and characteristics such as substance abuse, drunk driving, and not using safety belts contribute to an increased risk of RTC (Meuser et al., 2010; Onyema and Oladepo, 2011; Mcevoy et al., 2006; Nabi et al., 2007; Iribhogbe and Osime, 2008; Shams and Rahimi-Movaghar, 2009). Suitable feedback can change the driving behavior (Evans, 1996, 2003; Redelmeier et al., 2003; Wang et al., 2009). Recent researches highlight the need to modify drivers' behavior as a major target for traffic safety interventions (Purc-Stephenson et al., 2010). Moreover, it is well recognized that safer behavior is the result of correct attitude and improved knowledge (Wang et al., 2012; Martinov-Cvejin et al., 1993; Teoh et al., 2004).

1.3. Situation in Iran

In Iran, RTCs are of the leading causes of disability and mortality (Rahimi-Movaghar et al., 2009). Iran is among the countries with highest number of RTC fatalities in the world (Rasouli et al., 2008). Nevertheless, no previous study has evaluated the association between knowledge, attitude and practice of drivers in the region. For the first time, we evaluated the KAP of drivers in two cities of Tehran and Zahedan, Iran. We described the relationships between drivers' characteristics and RTCs. First, we assessed whether if driver's KAP are associated with the incidence of RTCs. Then, we aimed to extract the key determinant of RTCs, from knowledge to the final act of practice.

2. Materials and methods

2.1. Settings

This cross sectional study was performed from March 2010 to March 2011. The study population included a representative sample of drivers in Tehran and Zahedan. Tehran is the capital of Iran and represents a high-income city. Zahedan is categorized as a low income, border-city in Iran. Further details on the demographics, population and gross domestic product (GDP) share of the mentioned cities are presented elsewhere (<http://www.amar.org.ir/portals/2/Files1385/kolliostan/tehran/2303.pdf> and <http://www.amar.org.ir/portals/2/Files1385/kolliostan/sistan/1103.pdf>).

2.2. Study design

We used a simplified method of cluster sampling to represent target population (Bennett et al., 1991). In all, 1200 drivers in Tehran, and 1000 drivers in Zahedan were selected through randomized cluster sampling. Sixty locations in Tehran and fifty locations in Zahedan were chosen. During the visits of our research assistants (RA) to each location, 20 drivers were approached

consecutively and a previously validated questionnaire was filled for each participant.

Subjects were approached in locations where they were expected to have sufficient waiting time to complete the questionnaire. The locations were identified by the study group to include public places that were present in all districts. The locations were evenly distributed in the main 22 districts of Tehran and the main 5 districts of Zahedan. If drivers were taxi, bus, or truck drivers, they were approached on their rest breaks or in gas stations. Private drivers were approached inside bank queues. First of all, consultation with two experienced epidemiologist and biostatistician were performed to obtain the optimum stratification and minimum skew. In addition, to assure that the responses would not be skewed, based on the place of interviews (interviewing in public places vs. intersections and queues), stratification was performed and places were chosen according to the previous samplings in developing countries (Nordfjærn et al., 2011; Şimşekoğlua et al., 2012), and particularly Iranian drivers (Ozkan et al., 2006). The RAs were trained before approaching the drivers. For illiterate drivers, RAs facilitated the filling of the questionnaires. All of the participants were adults (≥ 18 years old) and were drivers. Verbal consent was obtained from the participants prior to inclusion in the study. All subjects who completed the questionnaire were included and none were excluded due to reported mileage or any other characteristics.

2.3. The questionnaire

We drafted the questionnaire after reviewing the literature and initially piloted the items with 40 drivers to determine the time needed to answer. In addition, each pilot tester was interviewed to assess the validity of written responses. Cronbach's alpha was calculated to ensure the reliability of the questions in each section. Questions with Cronbach's alpha below 15% were discarded from the final version. The final questionnaire included 16 demographic items, 24 items regarding the knowledge of driving and traffic rules, 26 items determining attitudes toward traffic regulations and 19 items on driving behaviors. The face and content validity of knowledge, attitude, and behavior items were discussed and confirmed by an external committee including police officers. The questionnaire is translated into English and could be seen in the supplement. For the analysis of the questionnaires' items, the maximum scores gained from knowledge, attitude and practice items were set at 91, 26 and 76, respectively. Higher scores indicate a safer KAP. The subjects were also asked for basic demographic questions, including age, gender, educational level, as well as wearing medical glasses, smoking, having driving license and liability insurance. The project was approved by the review board of both Sina Trauma and Surgery Research Center of Tehran University of Medical Sciences, and Zahedan University of Medical Sciences.

3. Statistical analysis

3.1. Univariate analysis

We used Student's *t* test to compare means of the associated factors and KAP (knowledge, attitude, and practice) variables between Tehran and Zahedan. Pooling the data of both cities to evaluate the relationship between KAP variables and RTCs in the last 3 years; employing univariate analysis using Student's *t* test (KAP grades were compared in subjects with and without RTC).

Download English Version:

<https://daneshyari.com/en/article/572367>

Download Persian Version:

<https://daneshyari.com/article/572367>

[Daneshyari.com](https://daneshyari.com)