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Elderly Perceptions About Road Traffic Injuries in Shiraz, Southern Iran

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Abstract

Background: Older pedestrians are at risk of higher rates of injuries and mortality. This could be due to increased physical and cognitive impairments in elderly people. Most available data on injuries in the elderly do not include their perceptions and concerns regarding accidents when they go out.

Objectives: The aim of study was to identify elderly perceptions regarding road traffic injuries (RTIs) in Shiraz, a city in southern Iran.

Patients and Methods: In this cross-sectional study, 165 participants over 60 years of age were conveniently sampled from 10 public parks and 3 mosques. Data was collected using questionnaires administered by a trained interviewer. The questions captured demographic characteristics and concerns about RTIs when going out. Data was entered into SPSS version 16, and the significance level was set at 0.05.

Results: Of the participants, 55.4% (n = 92) were men and 44.2% (n = 73) were women. The mean age (SD) of participants was 70.1 (6.86). More than 60% of participants were concerned about RTIs when going out (more than 40% were concerned often or always), and only 33.5% of participants were never concerned about RTIs when going out. Sixty percent of participants reported that they never go out at night. Motorcycles were the vehicle that caused the most trouble for the elderly while walking outside of their homes and crossing the road or intersections.

Conclusions: Attention to elderly concerns about RTI is important; from the perspective of elderly people, this would lead to the provision of a safer environment for elderly pedestrians. This age-compatible environment would cause fewer RTI concerns for elderly people when they are performing outdoor activities and would allow them to walk outside more often, even at night.

Keywords: Old Age, Perception, Road Traffic Injuries, Shiraz

1. Background

Worldwide, people are living longer. It is expected that by 2050, the world's population aged 60 years and older will be 2 billion (1). It is also projected that in addition to the absolute number, the proportion of elderly people will increase. The increasing age of the population (population ageing) first began in high-income countries, but it is projected that many other countries, like the Russian federation, Chile, China, and the islamic republic of Iran, will have elderly populations that constitute more than 30% of their general populations by 2050 (2).

The world health organization (WHO) has developed a global strategy and action plan on ageing and health, which aims to clarify a framework for public health action for the elderly globally (1). This framework has five strategic objectives, which focus mostly on healthy ageing. One is developing age-friendly environments. This is a focus because of the increased prevalence of disability and cognitive impairment in elderly people and because the elderly are susceptible to injuries, which are a significant cause of death. One important injury type is the road traffic injury (RTI).

Proportional to the overall population, older people are often overrepresented in road traffic deaths. In other words, older persons are more likely to be injured or killed than younger ones. (3-6). This is reported in a previous analysis of road traffic accidents in Chicago. Reports indicate that 20% of older people are involved in a RTI each year, and one third of pedestrian deaths in Iran are elderly people. Older pedestrians are at higher risk of injury and

mortality. This could be due to increased physical and cognitive impairments in elderly people. Most available data on injuries in the elderly do not include elderly individuals' perceptions and concerns regarding road traffic accidents. However, understanding these concerns about RTI is also important and may help urban planning to better meet their needs and concerns.

2. Objectives

This study was conducted on elderly perceptions regarding RTIs in Shiraz, a city in southern Iran.

3. Patients and Methods

In this cross-sectional study, 165 participants older than 60 were enrolled. Participants were selected conveniently from pedestrians in 10 public parks and 3 mosques in different districts of Shiraz, a large city in southern Iran. After obtaining oral consent for participation in the study, a data collection form was administered by a trained interviewer. The data collection form includes two parts: first, the demographic characteristic of participants and second, questions exploring the elderly's concerns about RTI when going out (using a Likert scale), for example, asking whether they are worried about RTIs when they go out or cross the road. Also, participants were asked which vehicles cause the most trouble when they go out for a walk or when they are crossing the road or intersections. They were also asked whether they walk to the nearest pedestrian crossing or not when crossing the road. Data was entered into SPSS version 16, and a chi-square test was used to compare group characteristics. The significance level was set at 0.05.

4. Results

The characteristics of participants are described in Table 1. We asked whether help was available when needed it as a way to probe the availability of social support; 62.5% (n = 104) of participants had available help (always or often). Regarding concerns about possible traffic accidents when they go out, 42.7% (n = 71) of respondents were concerned (Table 2). There was no significant difference in concerns about RTIs when going out or crossing the road by gender (P value 0.36 and 0.21, respectively) or educational level (primary vs. secondary and higher, P value 0.06 and 0.65, respectively). Regarding previous injuries, 36% of participants reported a history of some type of injury (even minor). Other characteristics about accident history and vehicles that caused most trouble for participants are presented in Table 3. There was no significant difference between men and women regarding the vehicles that reportedly caused the most trouble (P = 0.58). About three quarters of participants reported that the city is unsafe for the elderly to walk in.

Table 1. Characteristics of Study Participants

Characteristics	Values[a]	Total
Age	70.1 ± 6.86	165 (100)
Gender		165 (100)
Male	92 (55.4)	
Female	73 (44.2)	
Marital status		165 (100)
Single	4 (2.4)	
Married	158 (95.8)	
Widow	3 (1.8)	
Level of education		165 (100)
Illiterate	31 (19)	
Elementary school	41 (25.2)	
Guidance school	18 (11)	
High school	39 (23.9)	
University	34 (20.9)	
Lives with family		165 (100)
Yes	146 (88.5)	
No	19 (11.5)	
Has a driver's license		165 (100)
Yes	79 (47.9)	
No	62 (37.6)	
Yes, but its expired	24 (14.5)	
Goes out walking at night		165 (100)
At least weekly	49 (29.7)	
1 or 2 times a month	8 (4.8)	
1 or 2 times a year	9 (5.5)	
Never	99 (60)	

[a]Values are expressed as No. (%) except age which is indicated as mean ± SD.

5. Discussion

This study aimed to explore the concerns of elderly pedestrians regarding RTIs in Shiraz. More than 60% of participants were concerned about RTIs when going out (more than 40% were concerned often or always), and only 33.5% of participants never were concerned about RTIs

Table 2. Respondents' Concerns Regarding Road Traffic Accidents[a,b]

Question	Never	Sometimes	No Opinion	Often	Always
Are you worried about accidents when you go out?	55 (33.5)	38 (23.2)	1 (0.6)	29 (17.7)	42 (25)
Are you worried about accidents when crossing the road?	35 (21.3)	38 (23.2)	1 (0.6)	42 (25.6)	49 (29.3)
Are you worried about accidents when getting on or off a public transport bus?	57 (34.8)	37 (22.6)	22 (13.4)	31 (18.9)	18 (10.4)
Are you worried about accidents when getting in or out of a taxi?	55 (33.5)	35 (21.3)	27 (16.5)	30 (18.3)	17 (10.4)

[a] Values are expressed as No. (%).
[b] Total count is 165 (100).

Table 3. History of Accidents and Vehicles that Cause the Most Trouble for Participants

Question	No. (%)	Total, No. (%)
Have you ever had an accident that caused an injury, even a minor one?		165 (100)
Yes	59 (36)	
No	105 (64)	
Have you had an accident with a lingering complication?		59 (100)
Yes	23 (39)	
No	36 (61)	
Have you had an accident that caused even minor injury since you turned 60?		165 (100)
Yes	42 (25.5)	
No	123 (74.5)	
What vehicle causes the most trouble when you are going out for a walk or crossing the road or intersections?		100 (165)
Motorcycle	101 (61.2)	
Car	23 (13.9)	
Bus	7 (4.2)	
Heavy machines	5 (3)	
Motorcycle and Car	14 (8.5)	
Motorcycle and bus	3 (1.8)	
Bicycle	1 (0.6)	
All vehicles	7 (4.2)	
No idea	4 (2.4)	

while going out. However, the percentage of concerned participants may be underestimated because this study targeted outdoor pedestrians, who may have accepted the risks of walking in the city. There may be several elderly individuals that fear RTIs and choose not to walk outside.

One important finding was that 60% of participants reported that they never go out at night. However, this may be due to the lower perceived safety of walking in the city at night for elderly people (about 70% reported that the city is completely unsafe or unsafe to some extent). This may be a compensatory mechanism to overcome visual, auditory or cognitive impairment (7-10). In Australia, older people reported that they never walk at night significantly more than younger people (11). The possible causes for staying at home at night could be a research question for future studies.

More than 50% of participants feared RTIs when crossing the road, and most participants reported that they walk to the nearest pedestrian crossing rather than walk directly across the road. This could be another compensatory mechanism for declining ability or because the elderly show increased compliance with traffic laws (12) However, by itself, crossing the road at pedestrian crossings cannot decrease the risk of accidents; vehicles are more likely to stop at traffic signals or stop signs (13).

In Australia, bicycles and skateboards, which share in the use of footpaths, were more problematic for elderly people (11), but a high proportion of participants in the present study identified motorcycles as the vehicle that caused the most trouble. Because of their reduced ability to quickly avoid an accident, elderly pedestrians may be more likely to be injured or killed by motorcycles than other segments of the population. It seems that the close implementation of more intense speeding penalties for motorcyclists should be strongly recommended. Furthermore, motorcycle drivers that use the footpath should be penalized, and motorcycles should be confined to roads where there are fewer opportunities for accidents.

The present study, showing the perspective of elderly pedestrians, demonstrates that regardless of disease or disability in this population segment, the city environment must appropriately meet their needs. Finally, we suggest that further studies include the perspectives of older drivers and the elderly in different countries because it is evident that although the perception of risk among the elderly varies, it is a cross-cultural phenomenon (14).

Attention to elderly concerns about RTIs is important; it will lead to the provision of a safer and age-compatible

environment for elderly pedestrians. This environment will cause fewer RTIs when elderly pedestrians are performing outdoor activities and are walking outside, especially at night.

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Footnotes

Authors' Contribution: Study concept and design, Kamran Bagheri Lankarani and Sulmaz Ghahramani; acquisition of data, Aida Bagheri, Yasamin Dehghan, Farzaneh Kasraei, Marziye Keshtkar, Farnaz Peiravian, Sara Radandish, Samaneh Rostami, Asal Seifaei and Sepideh Setayesh; analysis and interpretation of data, Kamran Bagheri Lankarani and Sulmaz Ghahramani; drafting of the manuscript, Kamran Bagheri Lankarani and Sulmaz Ghahramani; critical revision of the manuscript for important intellectual content, Kamran Bagheri Lankarani and Sulmaz Ghahramani, Aida Bagheri, Yasamin Dehghan, Farzaneh Kasraei, Marziye Keshtkar, Farnaz Peiravian, Sara Radandish, Samaneh Rostami, Asal Seifaei and Sepideh Setayesh; statistical analysis, Sulmaz Ghahramani; administrative, technical, and material support, Kamran Bagheri Lankarani and Sulmaz Ghahramani; study supervision, Kamran Bagheri Lankarani and Sulmaz Ghahramani

Conflict of interest: The authors who have taken part in this study declare that they do not have anything to disclose regarding funding or conflicts of interest with respect to this manuscript.

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