

## TRAFFIC ACCIDENTS WITH ELDERLY PEOPLE: SOCIAL AND GOVERNMENTAL DEMANDS AND RESPONSIBILITIES

ACIDENTES DE TRÂNSITO COM IDOSOS: DEMANDAS E RESPONSABILIDADES SOCIAIS E GOVERNAMENTAIS

ACCIDENTES DE TRÂNSITO CON ADULTOS MAYORES: DEMANDAS Y RESPONSABILIDADES SOCIALES Y GUBERNAMENTALES

Ana Maria Ribeiro dos Santos<sup>1</sup>  
Fernanda Valéria Silva Dantas Avelino<sup>1</sup>  
Maria Adelaide Duarte Claudino<sup>1</sup>  
Maria do Livramento Fortes Figueiredo<sup>1</sup>  
Silvana Santiago da Rocha<sup>1</sup>  
Tereza Cristina Araújo da Silva<sup>2</sup>

<sup>1</sup> Universidade Federal do Piauí – UFPI, Departamento de Enfermagem. Teresina, PI – Brazil.

<sup>2</sup> Faculdade Estácio de Teresina, Curso de Bacharelado em Enfermagem. Teresina, PI – Brazil.

Corresponding author: Tereza Cristina Araújo da Silva. E-mail: tereza.silva@live.estacio.br

Submitted on: 2017/08/26

Approved on: 2018/06/04

### ABSTRACT

This is a theoretical reflection about the demands and responsibilities of society and of the public power in view of the high rates of traffic accidents involving elderly people. It was noticed that, in order to better understand this problem, it is necessary to rethink the transformations inherent in the aging process and its influences on the individuals as pedestrians and/or drivers, as well as the infrastructure and traffic logistics capable of aggravating or mitigating the vulnerability of this group to accidents. Civil society and public authorities are responsible for guaranteeing the health and safety of the population, with particular emphasis on the elderly, especially in relation to their mobility. In this sense, it is necessary to plan and execute accessibility works that respect the particularities of elderly people, as well as the supervision and punishment of infractions by the public power. Civil society, on the other hand, has a major responsibility to assume and fulfill its social role in non-violent and safer traffic for the elderly.

**Keywords:** Aged; Accidents; Traffic; Social Responsibility.

### RESUMO

*Reflexão teórica na qual se buscou refletir sobre as demandas e responsabilidades da sociedade e do poder público frente aos altos índices de acidentes de trânsito envolvendo idosos. Percebeu-se que, para a melhor compreensão desse agravado, é preciso necessário que sejam repensadas as transformações inerentes ao processo de envelhecimento e suas influências no indivíduo como pedestre e/ou condutor, bem como a infraestrutura e a logística de trânsito capazes de agravar ou minimizar a vulnerabilidade desse grupo aos acidentes. A sociedade civil e o poder público são responsáveis pela garantia da saúde e da segurança da população, com destaque para os idosos, especialmente em relação à sua mobilidade. Nesse sentido, fazem-se necessários o planejamento e a execução de obras de acessibilidade que respeitem as particularidades da pessoa idosa, bem como a fiscalização e penalização das infrações por parte do poder público. A sociedade civil, por sua vez, tem como grande responsabilidade assumir e cumprir com o papel social na construção de um trânsito sem violência e mais seguro para as pessoas idosas.*

**Palavras-chave:** Idoso; Acidentes de Trânsito; Responsabilidade Social.

### RESUMEN

*Reflexión teórica con miras a considerar las demandas y responsabilidades de la sociedad y del poder público ante los altos índices de accidentes de tránsito involucrando adultos mayores. Se observó que, para entender mejor este problema, habría que repensar los cambios inherentes al proceso de envejecimiento y sus impactos en el individuo como peatón y/o conductor bien como en la infraestructura y la logística de tránsito que pueden agravar o minimizar la vulnerabilidad de este grupo a los accidentes. La sociedad civil y el poder público son responsables de garantizar la salud y la seguridad de la población, especialmente de los adultos mayores y, sobre todo, de su movilidad. Por ello, habría que planificar y realizar obras de accesibilidad que respeten las particularidades del adulto mayor, así como controlar y penalizar las infracciones por parte del poder público. La gran responsabilidad de la sociedad civil, por su lado, es asumir y cumplir su rol social en la construcción de un tránsito sin violencia y más seguro para las personas mayores.*

**Palabras clave:** Anciano; Accidentes de Tránsito; Responsabilidad Social.

---

#### How to cite this article:

Santos AMR, Avelino FVSD, Claudino MAD, Figueiredo MLFF, Rocha SS, Silva TCA. Traffic accidents with elderly people: social and governmental demands and responsibilities. REME – Rev Min Enferm. 2018[cited \_\_\_\_\_. \_\_\_\_\_. \_\_\_\_];22:e-1108. Available from: \_\_\_\_\_. DOI: 10.5935/1415-2762.20180036

## INTRODUCTION

Traffic accidents, in the world context, cause 1.24 million deaths per year and leave between 20 and 50 million injured victims. According to the World Health Organization (WHO), despite worldwide population growth and increased motoring, the number of deaths from traffic injuries has remained stable since 2007. However, this invariability has not been experienced uniformly around the world; 68 countries have presented an increase in mortality related to traffic accidents since 2010.<sup>1,2</sup>

Between 2010 and 2013, the world population grew by around 4%, accompanied by a 16% increase in the number of vehicles in the same period. However, this increase in the number of vehicles, as well as deaths due to traffic accidents, is non-uniformly distributed between low, middle and high income countries. Low and middle income countries hold the highest rates of fatal outcomes of victims of traffic accidents, something relatively disproportionate to the motorization of these countries, which hold only 54% of vehicles worldwide.<sup>2</sup>

As for Brazil, the situation in question is very worrying. The country has been in the fifth place in the death toll *ranking* from this cause, behind India, China, the United States and Russia. According to data from the Mortality Information System (MIS), 42,291 deaths from ground transportation accidents were registered only in 2013, and according to data from the Hospital Information System (HIS), 170,805 hospitalizations occurred in the Unified Health System (SUS) due to traffic accidents.<sup>3</sup>

Among the main victims of traffic accidents are elderly people. In this age group, external causes are becoming an important determinant factor for morbidity and mortality in recent years, basically involving falls and traffic accidents. In the year of 2007, 18,946 deaths of people aged 60 years or more attributed to external causes were registered in the MIS; of these, 5,084 were deaths caused by traffic accidents.<sup>4</sup>

With advances in health technology, a large part of the elderly population has been able to maintain a more active lifestyle and still continues to circulate through cities as pedestrians, cyclists and drivers of motor vehicles. However, what is observed is that the elderly have been a group with significant vulnerability to fatal traffic accidents or serious injuries from these events.<sup>4,5</sup>

Thus, knowing that the consequences of traffic accidents with the elderly imply negative repercussions for the victims, their families, and for society, and knowing that the State and society play a fundamental role in ensuring the safety and health of this group, the present study aimed to carry out a reflection on the responsibilities and demands of society related to traffic accidents involving the elderly.

## METHODOLOGY

This is a theoretical-reflective study based on the literature and on the authors' perception, and aimed at providing subsidies for a better understanding of this theme and to raise new questions and research perspectives.

Articles from scientific journals published in the last five years, in the Latin American and Caribbean Literature on Health Sciences (LILACS), *Scientific Electronic Library Online* (SciELO), *Medical Literature Analysis and Retrieval System Online* (PubMed) and *Cumulative Index to Nursing and Allied Health Literature* (CINAHL) were investigated. The following controlled descriptors were used: elderly, traffic accidents and social responsibility. Other sources of literature such as manuals and reports of the World Health Organization that deal with the subject were also used.

## ELDERLY PEOPLE IN THE TRAFFIC

With increasing life expectancy, aging with autonomy and independence has been one of humanity's major goals and challenges. Currently, the focus of social and health policies directed to the elderly has been increasingly directed to promotion of active aging. The commitment to discussing the aging process without necessarily relating it to diseases and weaknesses has been constant.

What is observed is that older adults have been encouraged to remain independent and autonomous in what concerns the development of their activities, be they basic, functional or social activities of daily life. Today, gradually more elderly people remain in the labor market for a longer time, even after retiring from their work activities, due to changes in social security and other economic issues.

Moreover, it is observed that the elderly have valued their continuous social and political role, as well as the search for the construction of new bonds and affective ties during this phase. As a reflection of this, elderly people have been present in the context of traffic more than in past times, either as pedestrians and/or drivers of vehicles. This is also because many elderly people still need to move from one point to another, whether to work, to go to the supermarket, to the bank, to medical consultations and/or to attend social events.

However, the elderly and the traffic have proved to be a potentially deleterious and even fatal combination, with negative repercussions for individuals, families and society in several aspects.

The occurrence of traffic accidents involving the elderly differs in some points of accidents of the same etiology involving individuals of other age groups. Traffic accidents are commonly related to inadequate supervision or non-compliance with traffic safety rules by a adult toward children. Traffic ac-

cidents involving young people and adults, in general, are the result of reckless behavior in traffic.

In turn, traffic accidents with the elderly, among other issues, may be due to the physiological and organic changes inherent in the aging process, because the aging persons naturally experiences a reduction of some of their abilities. The presence of chronic degenerative diseases and the use of medications end up influencing the actions and the consequent performance of elderly people as pedestrians or drivers.<sup>6</sup>

In line with this assertion, a study about a guidance program emphasizing self-care practices for elderly drivers showed that of the total of 13 elderly participants, seven reported difficulties to drive, and five mentioned difficulties in interacting with the environment; three reported emotional difficulties and three reported physical, sensory and/or cognitive difficulties. Some reported not seeing well or being more sensitive to contrast.<sup>7</sup>

These are transformations that can affect the ability of the elderly as drivers, since driving is a complex activity that requires rapid, dynamic and continuous integration of high level cognitive, sensory-perceptive and motor skills. However, elderly people generally need more time to execute dual cognitive-motor tasks and dual motor tasks, especially when the latter relate to coordinated and distinct functions of upper and lower limbs. This is specially true when associated to stress, unforeseen events, irritation, worries and hurry while driving, which altogether have a potentiating effect on the risk of traffic accidents.<sup>7-9</sup>

However, it is as pedestrians that elderly people have been highly vulnerable to traffic accidents. Trampling is the main cause of mortality in elderly people who are victims of this type of accident, being generally associated with the behavior of other drivers (inappropriate speed, alcohol consumption while driving); infrastructure (absence of adequate conditions for the maintenance of sidewalks, pedestrian lanes, and central areas, time for crossing streets regulated by signs); and the *design* of cars with the inflexible bumpers, unfavorable to pedestrians who are run over.<sup>10,11</sup>

## IMPACTS OF TRAFFIC ACCIDENTS FOR THE ELDERLY, FAMILIES AND SOCIETY

Traffic accidents, whether involving elderly victims or not, and depending on the severity and sequels of the event, have repercussions in various fields of the life of individuals, families and the community. These repercussions may be related to health or economic and social aspects. This event involving the elderly presents a high risk of mortality and severe sequelae to the victims, and its consequences may reach family members and even society.

As regards specifically the elderly, the consequences of a traffic accident can generate physical or psychological se-

quels. The fragility in some organic systems due to the aging process implies that accidents of this etiology result in more serious injuries in the elderly, such as chest and cranioencephalic trauma, potentially fatal and related to long periods of hospitalization, eventually in intensive care units. Limb lesions are also prevalent in elderly people who suffer traffic accidents, with the main results being immobilizations and decreased functional independence.<sup>4</sup>

While the physical consequences of this health problem are greatly emphasized and discussed in studies in the area, the psychological consequences have not received due attention. As can be observed, deaths, disabilities and injuries are consequences of traffic accidents that draw more attention at first sight, usually receiving more assistance and care from health professionals. However, there are consequences of this event that are not discernible at first because they do not appear at the moment of the occurrence and that will only be identified with observation and follow-up of the victim after the incident.<sup>12</sup>

It is quite common that after a traffic accident, victims develop post-traumatic stress disorder that can range from feelings of anxiety to phobias. In the elderly, the situation is not different from that of individuals of other age groups involved in this type of accident. Studies have shown that elderly people victims of traffic accidents, in some cases, develop a kind phobia, of varying degrees, to return to the context of traffic, either as pedestrians or drivers, thus limiting their social activities.<sup>12</sup>

Furthermore, it should be emphasized that the elderly who acquire more severe physical sequelae may have their autonomy and independence reduced, becoming dependent on the care of others, something that, for many, can generate great psychological suffering and consequent social isolation with a negative impact on quality of life.

With regard to the families of the elderly victims of traffic accidents, the impact of this event may be related mainly to psychological and financial issues. Post-traumatic stress can also be developed by family members or people interacting with the elderly, and may be manifested by the appearance of feelings ranging from guilt, sadness, anxiety to phobia.<sup>12</sup>

Families have often to deal with the need for restructuring their dynamics and unexpected, but necessary financial costs, for the rehabilitation of elderly people who, in some cases, require assistance for a long period of time. This can generate physical and emotional overload for family members.

For society, the impacts of a traffic accident, in general, regardless of the age group involved, are very significant in the economic, social and health sphere. Accidents of this nature have incurred a very high cost to society, in terms of the expenses with insurers and social security and also high expenses directed to prehospital care, emergencies, treatment and rehabilitation sectors.<sup>13</sup>

## DEMANDS AND RESPONSIBILITIES OF SOCIETY AND THE PUBLIC AUTHORITY FOR THE PROTECTION OF ELDERLY PEOPLE IN THE TRAFFIC

As seen so far, the Brazilian population is aging. This new scenario has increasingly required an effort on the part of the State and society to guarantee the protection and maintenance of healthy life conditions for the elderly, considering the specific needs of this age group.<sup>8</sup> It is a fact that there are several obstacles that these individuals face in order to guarantee, in fact, an active aging with quality of life. Among these obstacles is “the precariousness of public investments to meet their needs”, including those related to the mobility and safety of these individuals in public streets.<sup>5</sup>

Based on the research and data related to this type of accident involving the elderly, it is observed that traffic accidents in this population are events which could be prevented through the adoption of some measures by the State and society to favor the safety of these people. It can be inferred that both the State and society, in general, have responsibilities regarding the prevention of this problem for the health of the elderly.

It is known that elderly people experience losses and some limitations resulting from the natural process of aging. However, this does not imply restricting the right of the elderly to come and go, nor is it correct to think that there is a point in life when individuals have to remain at home or become dependent on others in order to protect themselves from events such as traffic accidents.

What is needed is that society and the State take the necessary measures to ensure safe mobility of the elderly population. As the transformations resulting from the aging process are irreversible and inevitable, it is necessary to modify external factors that contribute to the occurrence of traffic accidents with the elderly.

International experiences have shown that public investments should focus on the circulation of pedestrians who, in a hierarchical way, need to have priority in the planning of movement of the various actors in the traffic.<sup>14</sup> Therefore, it is important that during this planning, the particularities of elderly pedestrians be taken into account, such as slower walking speed, which requires adequate timing for traffic light changes and pedestrian crossing; reduced visual capacity, requiring the reconsideration of the forms of signaling; accessibility of this elderly people to public transportation; the elderly's circulation in the centers of the cities, among other aspects.

It is also important to emphasize the role of each one in the safety of the elderly in traffic, besides being significantly important the society to charge the State with the necessary measures regarding the planning and restructuring of the inherent aspects of this fact, being of great necessity the recognition of the responsibility social security of all in the construc-

tion of a transit without violence and, consequently, more secure to the elderly.

In this sense, we highlight the possibility of effective participation of nurses as health team members due to their fundamental role in the comprehensive care for the elderly and in specific interventions for this population, and development of preventive and educational guidelines regarding traffic accidents in the health units and community centers in which the elderly are inserted.

Therefore, moving with safety is a fundamental right that in order to be respected, some measures must be discussed and adopted. Among these measures, the following can be cited: adequacy of traffic lights, especially in the routes of greater flow of vehicles; protected bus stops with easy and safe accessibility at the entrance and exit of public transport vehicles; accessible and readable information, considering the specificities of visual acuity related aging; more stringent traffic surveillance, as regards speed limits; and the taking of educational and punitive measures to reduce and prevent the occurrence of such accidents, as well as the protection of vulnerable users on public roads.<sup>4</sup>

There is therefore a need to involve society in general, including the engagement of managers and professionals, health training institutions and class entities, as well as the security and communication agencies in the commitment to guarantee the safe circulation of elderly people, to consider the specificities and fragility of aging, recognizing it as vulnerable to traffic accidents, especially as a pedestrians.<sup>4</sup>

## FINAL CONSIDERATIONS

With the promotion of active aging and, therefore, the independence and autonomy of the elderly, it is to be expected that the elderly will remain active and present in society for longer than years ago. Today, when people reach the age of 60 or over, they become increasingly anxious to remain socially, economically and politically active in their social environment, within their particularities. Therefore, it is necessary for them to move, to circulate, as pedestrians or drivers.

However, the problem is that, besides coping with the transformations arising from aging, elderly people have to face a series of challenges and obstacles on their way to work, home, and social events, which place them as vulnerable to traffic accidents. Population ageing is a fact, and the reality has unfortunately showed to be the lack of reorganization of several areas, including traffic, to meet this demand.

It is necessary that the various sectors of society - including family members, health professionals, specially nurses as fundamental members to act in this problem, and managers - should pay due attention to the need to intervene effectively in this problem, seeking restructuring and reorganizing the

measures that take into account the specificities of the elderly in the aging process.

In this way, there is a need to rethink infrastructure and traffic logistics, especially in large urban areas. Changes are necessary, including adequate structuring of major and principal roads and sidewalks to promote better mobility of the elderly; visual signaling that considers the decrease of visual acuity common in many elderly people, with the possibility in some situations, if necessary, of sound signaling as an alternative; light signs adjusted for the traffic signaling of vehicles and pedestrians that consider the specificities related to the slower walking speed of elderly individuals; among others.

It is also important to discuss vehemently the responsibilities of society in the face of traffic accidents involving elderly victims, due to the physical, psychological and economic impacts that this problem causes not only those directly involved but also to their families and society in general. It is not enough to blame political entities for the lack of urban infrastructure and traffic that considers the specifics of this age group. Improvements need to be demanded from these political entities and, most importantly, each citizen has to see himself as responsible for ensuring a safe circulation of these people.

## REFERENCES

1. Silva MMA, Morais Neto OL, Lima CM, Malta DC, Silva Junior JB. Projeto Vida no Trânsito Project—2011-2020 in Brazil. *Epidemiol Serv Saúde*. 2013[cited 2017 Mar 10];22(3):531-6. Available from: <http://scielo.iec.pa.gov.br/pdf/ess/v22n3/v22n3a19.pdf>
2. Organização Mundial da Saúde. Relatório mundial de envelhecimento e saúde. Genebra: OMS; 2015. [cited 2017 Mar 10]. Available from: <http://sbgg.org.br/wp-content/uploads/2015/10/OMS-ENVELHECIMENTO-2015-port.pdf>
3. Malta DC, Andrade SSCA, Gomes N, Silva MMA, Morais Neto OL, Reis AAC, et al. Injuries from traffic accidents and use of protection equipment in the Brazilian population, according to a population-based study. *Ciênc Saúde Coletiva*. 2016[cited 2017 Mar 10];21(2):399-409. Available from: <http://www.scielo.br/pdf/csc/v21n2/1413-8123-csc-21-02-0399.pdf>
4. Santos AMR, Rodrigues RAP, Diniz MA. Trauma in the elderly caused by traffic accident: integrative review. *Rev Esc Enferm USP*. 2015[cited 2017 Mar 10];49(1):162-72. Available from: [http://www.scielo.br/pdf/reusp/v49n1/pt\\_0080-6234-reeusp-49-01-0162.pdf](http://www.scielo.br/pdf/reusp/v49n1/pt_0080-6234-reeusp-49-01-0162.pdf)
5. Carvalho EM, Delani TCO, Ferreira AA. Health care of the elderly in Brazil related to trauma. *Rev UNINGÁ*. 2014[cited 2017 Mar 10];20(3):88-93. Available from: [https://www.mastereditora.com.br/periodico/20141130\\_220952.pdf](https://www.mastereditora.com.br/periodico/20141130_220952.pdf)
6. Boot WR, Stothart C, Charness N. Improving the safety of aging road users: a mini-review. *Gerontology*. 2014[cited 2017 Mar 10];60(1):90-6. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3920283/pdf/nihms521218.pdf>
7. Almeida MHM, Caromano FA, Ribeiro SS, Batista MPP. An orientation program for elderly drivers with an emphasis on self-care practices. *Rev Bras Geriatr Gerontol*. 2016[cited 2017 Mar 10];19(2):303-11. Available from: <http://www.scielo.br/pdf/rbgg/v19n2/1809-9823-rbgg-19-02-00303.pdf>
8. Fatori CO, Leite CF, Souza LAPS, Patrizzi LJ. Dual task and functional mobility of active elderly. *Rev Bras Geriatr Gerontol*. 2015[cited 2017 Mar 10];18(1):29-37. Available from: <http://www.scielo.br/pdf/rbgg/v18n1/1809-9823-rbgg-18-01-00029.pdf>
9. Belanger A, Gagnon S, Stinchcombe A. Crash avoidance in response to challenging driving events: the roles of age, serialization, and driving simulator platform. *Accid Anal Prev*. 2015[cited 2017 Jan 12];82:199-212. Available from: 10.1016/j.aap.2015.04.030
10. Organização Pan-Americana de Saúde. Segurança de pedestres: manual de segurança viária para gestores e profissionais da área. Brasília: OPAS; 2013. [cited 2017 Mar 10]. Available from: [http://apps.who.int/iris/bitstream/10665/79753/7/9789275718117\\_por.pdf?ua=1](http://apps.who.int/iris/bitstream/10665/79753/7/9789275718117_por.pdf?ua=1)
11. Freitas MG, Bonolo PF, Moraes EN, Machado CJ. Elderly patients attended in emergency health services in Brazil: a study for victims of falls and traffic accidents. *Ciênc Saúde Coletiva*. 2015[cited 2017 Mar 10];20(3):701-12. Available from: [http://www.scielo.br/pdf/csc/v20n3/pt\\_1413-8123-csc-20-03-00701.pdf](http://www.scielo.br/pdf/csc/v20n3/pt_1413-8123-csc-20-03-00701.pdf)
12. Mesquita Filho M. Traffic accidents: the visible and invisible consequences to the population health. *Rev Espaço Acadêmico*. 2012[cited 2017 Mar 10];11(128):148-57. Available from: <http://docplayer.com.br/17261667-Acidentes-de-transito-as-consequencias-visiveis-e-invisiveis-a-saude-da-populacao.html>
13. Magalhães APN. Acidentes de trânsito com adultos e suas consequências após a alta hospitalar [tese]. São Paulo: Universidade de São Paulo; 2014. [cited 2017 Mar 10]. Available from: <http://www.teses.usp.br/teses/disponiveis/83/83131/tde-15072014-120720/pt-br.php>
14. Pinto LW, Ribeiro AP, Bahia CA, Freitas MG. Urgent and emergency care for pedestrians injured in Brazilian traffic. *Ciênc Saúde Coletiva*. 2016[cited 2017 Mar 10];21(12):3673-82. Available from: <http://www.scielo.br/pdf/csc/v21n12/1413-8123-csc-21-12-3673.pdf>