An orientation program for elderly drivers with an emphasis on self-care practices

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Abstract

Objective: To present the results of an orientation program for elderly drivers which emphasized practices of self-care. The secondary objective was to describe the personal difficulties and environmental challenges identified by participants when driving a vehicle. *Method:* An intervention study of elderly drivers was performed. It included individual interviews, an orientation program and a focus group session. *Results:* A total of 13 elderly persons, aged between 62 and 82, participated in the study. Seven (54%) reported difficulties in driving, of whom five (71.4%) mentioned difficulties in interacting with the environment; three (42.9%) described emotional difficulties and three (42.9%) cited physical, sensory and/or cognitive difficulties. In the focus group session, the elderly persons reflected on factors addressed during the program that interfered with the act of driving, reporting that they had increased their self-care practices to cope with these. A majority of the participants identified the influence of attention deficits and the adverse effect of emotional issues when driving a vehicle. In terms of conditions relating to the social and physical environment, the elderly persons criticized the uncontrolled growth of traffic, mentioned their concerns about other drivers and pointed out deficiencies in the mechanisms of education, traffic control and punishment of traffic violations. They also discussed potential changes to encourage the mobility of pedestrians, a condition also experienced by the drivers. *Conclusion:* The elderly persons elucidated the importance of orientation in self-care practices, highlighting the importance of a dialogue between professionals and the elderly to discuss a wide range of practices related to factors that affect vehicle driving in order to maintain safety when driving for as long as possible.

Key words: Accidents Traffic; Self Care; Automobile Driving; Elderly.

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INTRODUCTION

Mortality from traffic accidents in Brazil increased 41.7% between 2001 and 2011. Considering the increase in the general population, the actual increase in traffic mortality in this decade was 27.0%.[1] In a study of 181 countries carried out by the World Health Organization (WHO) [2], Brazil occupies 33rd position in number of traffic deaths, placing it among the 20.0% of countries with the highest rates.

In addition, according to statistics, traffic accidents and falls occupy the first two places among the external causes of mortality of the elderly population.[3] Although the elderly do not constitute the most numerous population group in terms of traffic accident victims, they are the most vulnerable, especially older members. This arises from the frailty associated with aging and the fact that accidents cause more serious injuries among elderly persons, such as chest trauma and traumatic brain injury, which are associated with increased mortality and increased time spent in the intensive care units.[4] Injuries to extremities are also prevalent among elderly persons who suffer traffic accidents and often lead to immobilization and decreased functional independence.[4] Elderly men aged between 60 and 69 and with a low level of education represent the most prevalent profile of elderly victims of traffic accidents in urgency and emergency units. The majority of such victims are pedestrians, followed by drivers of automobiles and motorbikes. The most frequent periods of involvement in accidents are the morning and evening, with most occurring in urban areas.[3]

Despite the significant traffic mortality levels of the elderly, the number of drivers in this age group is increasing rapidly in Brazil. The elderly motorization index adopted by developed countries shows a rate of 12.0% .[5] In Brazil today this rate is also high and, due to inefficient public transport policies, especially for people with functional difficulties, the motorization rate of the elderly may continue to increase.[5]

The number of driving licenses held by the elderly shows a national growth trend. The number of drivers over 61 years of age increased by 60.0% between 2003 and 2007,[6] despite the period established for renewal of licenses of drivers over 65 being reduced from five to three years.[7,8]

It is assumed that this increase in elderly drivers relates to the importance attributed to driving by this group.[9] The car strengthens the bond between the elderly and the community and also increases their independence and freedom. In contrast, cessation of automotive driving increases the risk of depression, isolation, decreased quality of life and poorer health.[9]

Although part of the elderly population retain an ability to drive competently and safely,[10,11] the process of aging implies changes that may affect the ability to drive. Driving is a complex activity that requires the rapid integration of dynamic and continuous high-level cognitive, sensory-perceptual and motor skills. Elderly people are exposed to risk in traffic resulting from a reduction in such skills, organic fragility, increased prevalence of chronic degenerative diseases and the use of medications used to control such illnesses.[12]

The act of driving can become even more complex and challenging for the elderly depending on the environmental conditions. Thus, due to the influence of internal factors relating to an individual, and external factors related to the environment in which the vehicle is driven, problems experienced by elderly drivers should be dealt with from a perspective that relates the individual and the environment.[12]

Much of the debate on formal restrictions on permission to drive for the elderly is based on assumptions about their inability to judge their abilities, adopt ways to adapt to difficulties, identify the appropriateness of environmental conditions for driving, recognize their limits and, above all, make decisions about when the time has come to stop driving altogether.[11] In opposition to these assumptions, elderly drivers are recognized for their greater experience, prudence and responsibility.[11]

In this controversial context, it seems relevant to support elderly drivers in the process of evaluating their skills, difficulties and environmental circumstances related to driving, as well as in the development of self-care practices required face them.

The objective of this article is to present the results of an orientation program with emphasis on self-care practices for elderly drivers and describe personal difficulties and environmental challenges identified by its participants in relation to driving.

METHOD

This is a qualitative study, in the form of an intervention research, developed by a professor of the Occupational Therapy course at the Universidade de São Paulo (the University of São Paulo) (USP), with the participation of an undergraduate student of this course who is studying by way of a grant from the Aprender com Cultura e Extensão (Learning through Culture and Extension) Program of USP.

The research was carried out between March and July of 2012 and was supported by the Comissão de Cultura e Extensão (Commission of Culture and Extension) of the Medical School of the University of São Paulo, which allowed the invitation of potential participants and provision of rooms for the study to be carried out.

The research was conducted in three stages. The first consisted of individual interviews to identify personal difficulties, environmental challenges and motivations for driving. A total of 17 elderly persons participated in the initial stage, but five were excluded due to the fact they did not drive. The survey was therefore carried out with 13 participants.

The second stage was aimed at developing an orientation program and consisted of seven weekly two hour meetings. These meetings focused on raising the awareness of the participants about the skills, personal difficulties and environmental challenges related to driving. At the meetings, the following difficulties, previously mentioned in the interviews, were discussed: physical, sensory and emotional difficulties, in addition to those related to illnesses and treatments, economic difficulties and difficulties arising from the physical and social environment. Self-care practices to allow these difficulties to be faced were also identified, developed and reinforced. At each of the meetings, specific difficulties and practices were presented by the researchers, and the participants then shared their insights and experiences regarding these difficulties and practices.

The third stage was a focus group session, aimed at identifying the perception of members in relation to the personal difficulties and environmental challenges they shared and of the self-care practices promoted during the orientation program. The decision to opt for a focus group was based on the adequacy of the technique to study the impact of interventions from the participants' accounts of concepts, feelings, attitudes, beliefs, experiences and opinions.[13]

Study population

The participants were people 60 years of age or older; living in the city of São Paulo; enrolled in the Universidade Aberta a Terceira Idade da Universidade de São Paulo (São Paulo University Open University for Senior Citizens) (UATI/USP) and who attended a series of lectures of the program at the Faculdade de Medicina da USP (USP School of Medicine) (FMUSP); who were drivers and who had a vested interest in participating. Elderly persons who were interested in the research but who did not drive were excluded. It was decided to invite members of UATI/USP to participate in the study, as the UATI is aimed at elderly persons seeking to advance their knowledge in some area of their interest while exchanging information and experiences with younger students.[14] The invitation was made for two consecutive weeks, at the end of the UATI/USP lectures, and mediated by the Culture and Extension Commission of the FMUSP.

The study was approved by the FMUSP Ethics Committee, registration nº 046/12. All participants signed a Free and Informed Consent Term.

Data Collection

The first stage consisted of individual interviews guided by a semi-structured sequence of questions. The interviews were conducted by the professor responsible and the scholarship student, who was properly trained in advance. The sequence of questions dealt with motivations for driving, where and how often the participants drove, the presence of physical, sensory, emotional, and cognitive difficulties in driving a vehicle, difficulties related to clinical restrictions (diseases or effects of corresponding treatments), economic difficulties and challenges presented by the physical and social environment (architectural design of streets and roads, problems with signs and signals, among others).

The second stage referred to the orientation program, with emphasis on the identification, development and reinforcement of self-care practices related to the difficulties identified in the interviews.

To initiate the focus group discussion, an individual questionnaire was used as stimulus material. This questionnaire dealt with adverse personal and environmental conditions related to the act of driving and self-care practices adopted as a result of participation in the program. The content of the results from the focus group were analyzed by means of thematic analysis.[15]

RESULTS

The following is data collected in the first and third stages of the research, corresponding respectively to the initial interviews and focus group session.

Of the 17 elderly persons who participated in the first stage of the study, 13 participants remained until its completion. The participants who concluded the study informed that they had been driving for twenty years or more, were between 62 and 82 years of age. Nine (69.2%) were female and four (30.8%) were male. Most stated that they drove on a daily basis or frequently in the city, while the minority drove with the same frequency on highways.

The motives the participants gave for continuing to drive were: saving time, maintaining their freedom and independence, developing quick thinking ability and attention, for pleasure and comfort, necessity of movement and even the poor public transport and lack of transportation alternatives at night. They also considered that the act of driving is important in order to carry out their current and future activities, especially in their roles as student, involving leisure, as family members and those related to domestic service and volunteerism.

Of the thirteen elderly participants, seven (54.0%) reported difficulty driving, five (71.4%) mentioned difficulties in interacting with the environment; three (42.9%) described emotional difficulties and three (42.9%) reported physical sensory and/or cognitive difficulties.

Despite the constant awareness building during the program related to the difficulties of driving associated with aging, the focus group participants mentioned few sensory difficulties. Of the most frequently identified difficulties associated with vision and self-care practices, the majority were related to ophthalmological diseases.

Also with regard to vision, some elderly persons stated that they did not see well or were more sensitive to contrast. The practices mentioned included not driving at night, not looking directly into the lights of oncoming cars, using lenses for correction of vision and seeking professional guidance when problems are detected.

In relation to hearing, the use of the hearing aids, together with a greater use of vision were considered as self-care practices to compensate for hearing impairment.

During the orientation program, some members increased their awareness of the difficulties related to attention and the need for self-care practices, which were expressed during the focus group:

> *"I sometimes lose concentration when driving".*

> *"I get distracted by nature, beautiful buildings, new things".*

> *"I have been paying more attention when driving... not answering the phone, reducing the volume of music and avoiding talking while at the wheel".*

> *"Now I think before going out... I've become more attentive".*

In the focus group, participants confirmed the physical changes associated with aging and their impact on driving:

> *"I feel pains in my body after many hours driving. They present risks to my driving".*

Self-care practices, such as behavioral and lifestyle changes and the use of aids were mentioned to overcome the physical difficulties caused by age:

> *"The use of vehicles with automatic transmission".*

> *"Walking more frequently".*

> *"Physical exercise, good nutrition and not being worried about family and home".*

The elderly persons spoke about the adverse impact on their driving through stress, irritation, worrying and being in a hurry and how these are aggravated by traffic. The group stressed the importance of emotional health in order to perform well at the wheel.

> *"I do my best not to get irritated when driving, even when I get cut off by another driver".*

With respect to how social and environmental conditions affected driving, some participants mentioned suffering from prejudice in traffic. However, the group was effective at strengthening the self-esteem and self-confidence of its members:

> *"I broke the taboo of the inferiority complex... Before I heard 'go home old woman', I gained confidence, now I know that I have the right".*

Other older people feel insecure in traffic because of the improper behavior of other drivers:

> *"It's not that I am not insecure, but I don't trust other drivers".*

There was a lot of criticism regarding disorganized traffic growth with emphasis on the deficiency of monitoring mechanisms and lack of punishment for traffic violations:

> *"Traffic jams, few places to park".*

The elderly participants have sought to intensify the attention they pay to pedestrians and signaling in order to adapt to some of the adverse conditions related to the physical and social environment.

The question of the rights of the elderly provided an opportunity for exchanging views. For some, the discussions in the group reaffirmed these rights:

> *"Yes, I use them intensely. I use parking for the elderly".*

> *"I can't wait to reach that age and have certain rights".*

> *"I acquired an automatic car, so now I don't pay road tax... I already have the card for elderly drivers to park in reserved spaces".*

For other members of the group, the discussions gave them the opportunity to reflect on rights they had not yet exercised:

> *"I intend to use the elderly drivers' card to park in the south of the city".*

> *"I haven't used any, now I'm aware I intend to use them".*

Different views on automotive technology were observed. Some resisted adopting them while others used them and acknowledged their benefits:

> *"Automatic cars are full of buttons".*
>
> *"I didn't adopt it... but I intend to".*
>
> *"I already use technology and I can see that I'm on the right track".*

The group emphasized the conditions for pedestrians, which were also experienced by those who drive. They discussed changes in the environment to promote safe mobility:

> *"Pedestrian crossing signals with a digital numeric indicator of the time to change from green / red".*
>
> *"In some cities there are elevated pedestrian crossings at the same level as the sidewalk".*

With regard to the education and awareness of drivers and pedestrians, the participants emphasized the importance of exercising rights and fulfilling obligations:

> *"Campaigns for drivers to alert them to the dangers that pedestrians face". "Awareness of pedestrians and drivers... we have rights, but we also have obligations".*
>
> *"I think pedestrians need to receive more orientation".*

Participants highlighted the importance of the guidelines and discussions elaborated at the meetings:

> *"It is expansion of knowledge".*
>
> *"It's a refresher course for elderly drivers".*
>
> *"It helped me become more confident at the wheel".*
>
> *"It clarified many doubts".*
>
> *"It would be very interesting if this theme continued to be discussed".*
>
> *"...I'm aware that every day other difficulties may present themselves, and this course has given me the awareness to take previsions".*

DISCUSSION

The participants stated that driving is important for them to carry out current and future roles including being a member of the family, a volunteer or to participate in leisure activities. Another study agreed with this finding, describing how active drivers, when compared to those who stopped driving, had more social roles, performed more volunteer work, played more active roles as family members, spent more time on social leisure activities and less time on solitary leisure activities.[4]

The program participants added that the act of driving also facilitates everyday life in other ways, making it easier to get around, and reduces the time necessary for activities in addition to providing pleasure, comfort, freedom and independence. By generating these benefits, the act of driving contributes to satisfaction of life.[16]

The visual difficulties affecting the ability to drive mentioned by the participants related predominantly to ophthalmic diseases. Studies have shown that, in addition to alterations in vision caused by age such as the decline in visual acuity and loss of field of vision,[17] some diseases such as cataracts, glaucoma and diabetes can increase damage to vision.[10,12] Visual problems that lead, for example, to poor judgment of speed and distance between vehicles and incorrect interpretation of signs are among the causes of many accidents.[18]

Stopping to drive at night, not looking directly at the lights of cars coming in the opposite direction and the use of lenses were some of the practices mentioned by the elderly participants. These practices are considered to be recommended changes in habit for elderly drivers with visual impairment.[10] In general, it is also recommended that elderly persons should have periodic ophthalmic exams in order to diagnose pathologies associated with age.[10]

Although to a much lesser extent, hearing difficulties were also mentioned by the participants. Hearing deficiency is identified as a cause of many traffic accidents,[5] as the processing of auditory signals may suffer increasing impairment with the

advance of age.[19] It should be acknowledged that the use of vision to compensate for hearing loss referred to by the participants is in line with data found in literature on the subject.[11]

Attention deficit was mentioned frequently. This difficulty is related to the decline in the ability to divide attention between central and peripheral stimuli,[20] to shift attention from one stimulus to another and to respond to them with agility.[12]

Elderly drivers are at a higher risk of traffic accidents when they are faced with unanticipated situations, time-related pressure and when multiple and simultaneous driving maneuvers are required.[21] These events relate to the fact that elderly persons require more time to implement dual cognitive-motor tasks and dual motor tasks, especially when the latter relates to coordinated and distinct functions of the upper limbs.[22] Adaptations to mitigate difficulties of attention such as focusing on driving and avoiding distractions, as mentioned by the participants, should be adopted by elderly drivers.

Planning in advance was a practice mentioned by the participants to help deal with slow processing of information. This practice can be adopted by drivers and measures related to this concept could be implemented on roads, by means of signs positioned ahead of areas that require special attention to permit safe decisions.[12] In addition, exercising memory and attention can also be used to compensate for cognitive deficits.[10]

The elderly participants acknowledged physical changes, pain and discomfort and their interference on the act of driving. Aging is accompanied by a reduction of muscle strength, flexibility, coordination and slower reaction times, all of which have a negative impact on the ability to drive.[10]

For relief of pains and discomfort, the participants do their best to adopt healthy lifestyles and make use of automotive technology. The use of automatic cars and power steering are measures that have also been mentioned in literature related to the issue.[23]

The participants often mentioned the adverse conditions of the physical and social environment for driving and proposed solutions such as better attitudes among drivers, greater efficiency of monitoring mechanisms, educational campaigns and improvement in the conditions of streets and roads. The Federal Highway Administration, an agency within the US Department of Transportation responsible for research and programs aimed at nationwide improvement of highways, foresees mechanisms for elderly accessibility on the roads such as improved road engineering, new road plans, reviews of intersections, improved signaling and road surfaces.[24]

In Brazil, modifications to traffic and transit systems are also required, with implications for both elderly drivers and pedestrians, such as: specifically adapted areas, a reduction in the height of steps on buses and an increase in traffic signal time.[5] As pointed out by the elderly persons in the present study, strategies for pedestrians should be encouraged due to this group being the greatest victims of traffic accidents involving the elderly.[4] Factors such as the impatience of motorists; especially when pedestrians need to cross the street, obstacles on sidewalks, bad conditions of sidewalks and narrow sidewalks, hinder the mobility of elderly pedestrians in urban areas.[25]

Although the present intervention, aimed at elderly drivers, can contribute to preventing and reducing injuries and deaths from accidents involving the elderly,[4] its scope is limited as problems experienced by elderly drivers should be dealt with from a perspective that relates personal and environmental factors in a wider manner.[12] Therefore, to increase the importance of the environment in future interventions, partnerships with official traffic institutions should be developed, including, in addition to the elderly drivers themselves, professionals in the areas of health, automotive engineering, public transport and the articulators of public policies.

Despite the limitations of this intervention research, its contribution is ratified by the identification of difficulties and self-care practices adopted by elderly drivers living in São Paulo. This

proposal is in line with the need for involvement of resident populations of cities in the creation of public policies.[25]

CONCLUSION

The present intervention research enabled the participants to identify benefits of driving and expand their perception of internal difficulties and the environmental challenges related to this activity and of the self-care practices used to face them. The elderly participants identified the importance of the orientation and emphasized the fundamental importance of discussion between professionals and the elderly, and of comprehensive practices that equate the multiplicity of factors related to the act of driving, always with the aim of making driving safe for as long as possible.

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