

Review Article

Older Adult Drivers: A Developing Public Health Concern

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Received: November 04, 2016; Accepted: December
15, 2016; Published: December 16, 2016

Abstract

Driving is identified as one of the most independent activities in everyone's daily life. Individuals identify driving as a privilege and believe they will always be able to drive. Driving involves sufficient physical, cognitive and coordination abilities. Unfortunately, when physical, cognitive and/or coordination impairments occur as one ages, many older persons are not readily prepared in giving up their driving independence. The subject becomes troubling when older adults continue to drive with deficits and it develops into a public health safety concern. As the aging population continues to increase dramatically in the United States (US), the number of older persons driving will also increase. Due to the importance of this rising safety concern, nurses and allied health professionals in the various disciplines in which they are employed, have a professional role in advocating and intervening accordingly for the safety of older individuals who continue to utilize their driving independence to promote safety on the roads.

Keywords: Older adult; Drivers; Safety concern; Public health

Driving and the Older Adult

The rapidly growing aging population in the United States (US) has created an important public health issue: the older adult driver and safety. Nearly half of all drivers today are older than 65 years of age, a proportion expected to increase dramatically in the coming decades [1]. Due to the trend that individuals are living longer, many older adults continue to drive as they age well into their 80's and 90's. The dramatic shift in this demographic has led older drivers to be at an increased risk for automotive crash involvement [2].

Driving is considered one of the most vital activities of everyday life. Many individuals assume they will always be able to drive and maintain independence behind the steering wheel. Being able to drive is frequently associated with having independence, but sometimes an individual may be unwilling to let go of their driving independence when they are unable to acknowledge they are experiencing deficits [2]. A percentage of older adults may refuse to be tested and become defensive for the fear they may lose their ability to drive. This issue can be very challenging to health care providers who have direct contact with older adults on a regular basis.

Furthermore, this specific age group also has the highest motor vehicle accident rate per mile. Due to increased frailty in older age, older individuals are more likely to be injured in a car accident than a younger individual [3]. In fact, Motor Vehicles Accidents (MVA) are the number one cause of injury related fatalities in the 65-74 year old age group [4]. According to the American Medical Association (AMA), the rate of fatalities for drivers in vehicle collisions over the age of 85 is 9 times that of drivers aged 25-69 [5]. In 2012, there were 5,560 people 65 and older killed and 214,000 injured in motor vehicle traffic crashes. These older individuals made up 17 percent of all traffic fatalities and 9 percent of all people injured in traffic crashes during that year. Additional statistics by the US Department of Transportation reveal that most traffic fatalities involving older drivers in 2012 occurred during the daytime (75%), occurred on weekdays (69%), occurred at non-intersection locations (68%) and

involved other vehicles (64%) [6].

The dexterity of driving requires numerous abilities that are commonly affected by the normal aging process. Several examples include an alteration in muscular and skeletal coordination, neurological reflexes, vision, hearing and muscle strength. Skills involving cognition may strongly influence driving such as having an alteration in safe judgment, situational insight, attention span and the inability to interpret behavior from other drivers on the road.

Nurses, advanced practice nurses and multidisciplinary specialists who have contact with older individuals in various public health settings are at the forefront in identifying issues of safe driving and the need for an accurate and thorough assessment of the older patient. It is vitally important that nurses promote necessary education to their patients, direct care providers, and family members regarding safe driving and be efficient in making referrals. It is essential we beattentiveto concerns that may involve some degree of impairment whether cognitive and/or physical that may impact the safety of the older adult or other individual drivers.

The following listings offer a general guide to assist nurses and other health care providers in investigating and identifying any limitations in physical and cognitive capabilities. It is also encouraged that recognized limitations be investigated by further testing and referrals made to specialists.

Driving evaluation usually involves a 3 prong approach [1].

1. A comprehensive history and physical with cognitive assessment and medication review.
2. A computer simulated driving test.
3. A road test with a certified examiner.

Tools for assessment and referrals

1. **Vision:** Snellen, Field of Vision, Acuity; refer to an optometrist or ophthalmologist for a more detailed eye examination

and work up.

2. **Cognition:** clock drawing, mini mental state examination or mini-cog

3. **Motor Function:** ambulation, gait, range of motion to major joints, coordination, bilateral limb strength, balance, proprioception, reflexes.

While providing standard of care to the older adult, each documented diagnosis should be assessed in further detail regarding an overview of the cause, a description of signs and symptoms, recommended diagnostic testing and clinical reasoning. In many circumstances, making referrals to medical specialists should be practiced and maintaining adequate communication to all individuals involved.

The following is a limited list of common medical diagnoses that may exist and straightforwardly affect the aging process of the older adult through some various degree of physiological and psychological alterations [2]. Several of the diagnoses may overlap several sections. It is important to note that each older adult case should be individualized based on their specific case presentation.

Diagnoses that can affect safe driving in the older adult

Vision impairment

- Cataracts
- Glaucoma
- Macular degeneration
- Diabetic retinopathy

Cognitive impairment

- Alzheimer's disease
- Dementia
- Delirium
- Parkinson's disease
- Multiple strokes
- Epilepsy (uncontrolled)

Motor impairment

- Diabetes mellitus
- Diabetic neuropathy
- Parkinson's disease
- Degenerative muscular and skeletal diseases
- Multiple sclerosis

Cardiac

- Arrhythmias

Medications

- Arrhythmias
- Opioid analgesics

- Antihistamines
- Anxiolytics
- Cough and cold medicines (over the counter and prescription)
- Benzodiazepines
- Muscle relaxants
- Sedatives

Counseling Older Drivers

All healthcare professionals in their disciplines are at a unique position to detect any impairment or potential risk factor involving safe driving and the older adult. Professionals should frequently discuss with their patients if he or she is concerned about their driving ability or if a family member has voiced concerns. The following is a limited list of questions we can ask our patients regarding driving [2].

1. Did you drive here today?
2. Did you drive here alone?
3. Have you ever had any problems when you were driving? (You may want to investigate this question in further detail).
4. Have you ever gotten lost driving?
5. Have you had any accidents or minor fender benders in the past 2 years? (Ask in further detail even if it was not their fault).
6. Have you had any traffic tickets or warnings?
7. Have your family members or friends ever insisted on driving when you were with them?
8. If you could not drive, what other options do you have for getting around?

Though this article focuses on physiological and psychological changes that can develop frequently in the older adult that may influence their safe driving ability, it is also important to comment that there are several positive characteristics of the older driver worth mentioning which are listed below [7,8]. Unfortunately, even with older adults performing safe driving practices, the activity of an impaired older driver can easily become a stereotype for an entire age group [2].

- More likely to wear seatbelts
- More likely to avoid tailgating
- More likely to avoid drinking and driving
- More likely to avoid driving at night

Conclusion

Driving is one of the single most independent activities for any older adult. Losing that independence and privilege can often be associated with a personal sense of loss and isolation. As nurses with various educational degrees and other multidiscipline professionals practicing in numerous healthcare settings, it is vital to assess each older adult based on their individual presentation, present health, sensory, cognition, motor function and medication status as they

relate to the ability to drive safely. We should identify risks to safe driving and encourage them to self-reflect on their ability to drive. Follow up visits should be regular and consistent with the same healthcare provider, include care givers and/or family member to be present. Health care professionals should be knowledgeable of conditions that may impair an older person's ability to drive safely. Accurate documentation of assessment findings and follow up with referrals are necessary in the plan of care. Maintaining excellent communication with all individuals involved and practicing advocacy for the older adult in promoting safe driving are the ultimate goals.

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