

Fact sheet: Prevention of Accidental Poisoning among Elderly

Elderly Safety-Focus on Accidental Injuries

Accidental Injuries among Elderly People

Accidental poisoning deaths comprise <5% of the total burden of injury among elderly and account for a series of adverse outcomes. Gases and medicinal products are the main causes of poisonings. As the EU population ages and lives longer with multiple chronic diseases and with complex medical regimens, poisonings due to medications will become an even more important issue. Until the problem of poisoning in the elderly is widely recognized and education programs are developed, this group will continue to be at risk.



"invite elderly to a safer and better life"

FACTS

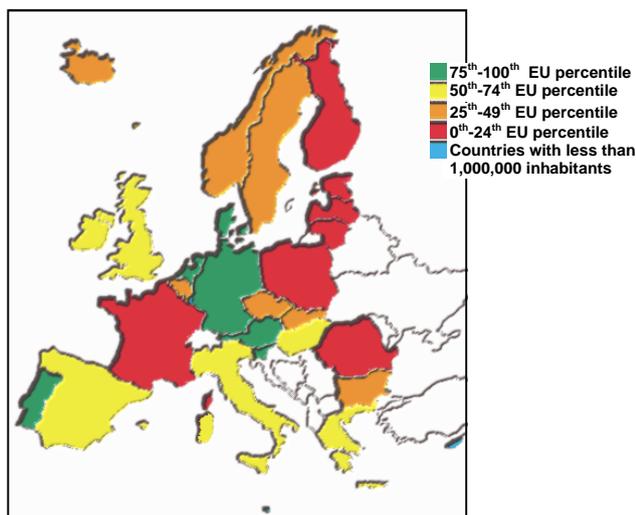
All injuries

- ◆ Senior citizens in the EU-27 and the EEA account for an appalling toll of about 105,000 fatal injury cases per year out of which 85,000 are categorized as unintentional and 20,000 as intentional¹⁻³
- ◆ In the EU-27 there is a 4-fold variability in the frequency of injury death among elderly. Hungary has the highest mortality rate followed by the Czech Republic, France, Finland and Denmark whereas Bulgaria, Greece, Spain, UK and Germany have the lowest rates³
- ◆ Deaths due to injuries are only the tip of the iceberg. In the EU-27 every day 15,000 elderly sustain an injury severe enough to seek medical care, out of whom 5,500 are ending up in a hospital and 275 eventually die, whereas several hundreds never get back home as they enter a nursing home
- ◆ The proportion of elderly people in the EU-27 population is steadily increasing, which will have immediate impact on the burden of injuries in this age group

Accidental poisoning injuries among elderly

- ◆ Accidental poisoning is the third leading cause of unintentional injury death among people 65 and older accounting for <5% of all types of injuries.⁴⁻⁶ There are almost 2,000 deaths from this type of injury among elderly in the EU-27 Region³
- ◆ Poisoning Centers have significantly contributed in the reduction of death rates due to poisonings with 10 Member States reporting < 1 rates whereas five countries (Lithuania, Estonia, Latvia, Finland and Romania), all with high consumption of alcohol, report annual rates > 5. This discrepancy shows a further potential for prevention³
- ◆ Statistically significant time trend gains in the prevention of accidental poisoning were noted during the last decade in several EU Member States, whereas a statistically significant increase was noted in France, also a country with high alcohol consumption⁵

Geographic distribution of EU-27 and EEA mortality rate due to poisoning among elderly³

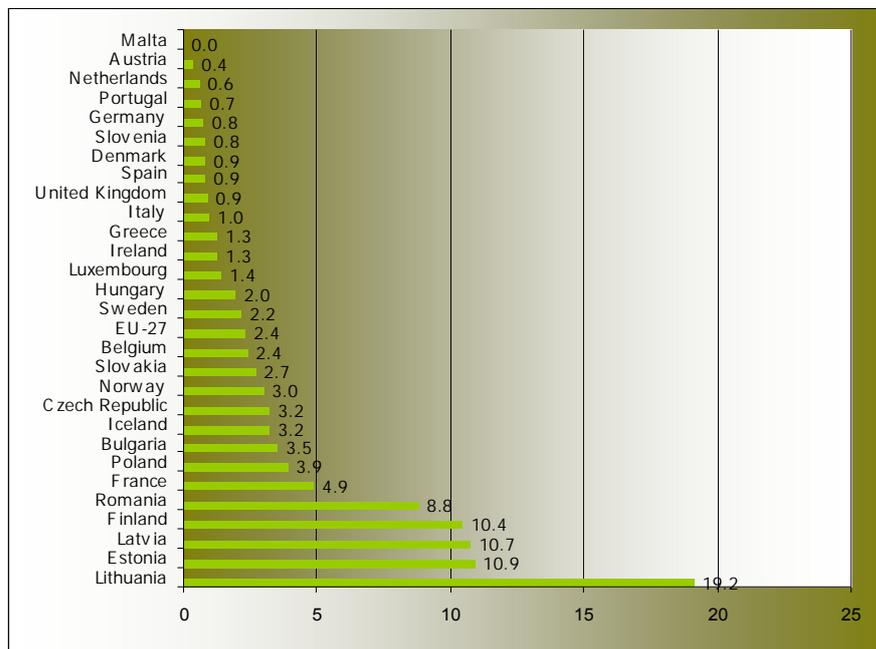


Source: WHO mortality database last available 3 years average for each country (circa 2002-2004) adjusted by CEREPRI

Mortality Data

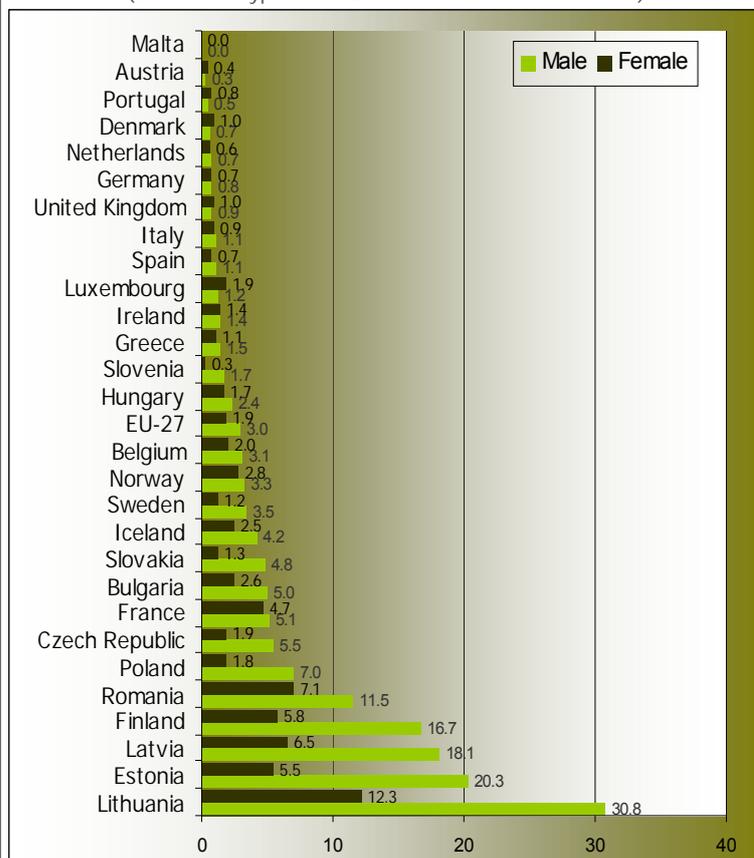
- ◆ Each year about 1 out of 10 elderly will be treated by a medical doctor due to an injury, amounting to a total of 8 million injuries in the EU-27 and EEA¹
- ◆ Fatal injuries due to accidental poisoning among elderly males are 50% higher than among females³
- ◆ Elderly aged 65-79 years have a 2-fold higher mortality rate due to accidental poisoning compared to elderly aged 80 and over³
- ◆ The vast majority of accidental poisoning occurs inside the house, especially among the very old⁴

Age adjusted mortality rate due to poisoning per 100,000 among elderly in the EU-27 by age group³ (data for Cyprus and Liechtenstein are not available)



Source: WHO mortality database last available 3 years average for each country (circa 2002-2004) adjusted by CEREPRI

Age adjusted mortality rate due to poisoning per 100,000 among elderly in the EU-27 and the EEA by gender²
(Data from Cyprus and Liechtenstein are not available)



Source: WHO mortality database last available 3 years average for each country (circa 2002-2004) adjusted by CEREPRI

Proportional Indicators
derived from Emergency Departments

The pattern of injuries due to poisoning based on data derived from Accident and Emergency Departments in three member states, namely Denmark, France and Greece, shows that injuries due to poisoning account for less than 1% of all injuries, which sought care in the Emergency Departments. Yet, these injuries present high hospitalization rates in all three-member states. Most of poisonings occur inside the home and elderly women seem to sustain a higher proportion of poisonings. Poisoning due to smoke of fire, gases, such as carbon monoxide and other chemical seem to prevail followed by pharmaceutical products.^{7,9} Belgian Poison Centers report that fatalities due to carbon monoxide intoxication can be attributed to the outdated water heating installations the use of coal stoves and the insufficient ventilation¹

Distribution of poisonings among elderly in 3 member states by product involved⁴

Product	DK N	FR N	GR N	TOTAL %
Smoke from fire, other gases	59	31	0	54.5
Other chemicals	18	6	3	16.4
Pharmaceuticals	9	5	3	10.3
Food	4	6	8	10.9
Other	3	2	8	7.9
Total	93	50	22	100.0

OUTCOME

Poisoning Centers have contributed significantly to the reduction of poisoning injuries. Elderly people, however, are vulnerable to intoxication and their social isolation is a contributing reason for late presentation to the Emergency Departments after intoxication

- ◆ Because elderly are more fragile than younger age groups, poisoning leads to comparatively more severe complications
- ◆ There are limited data with regard to outcomes of accidental poisoning among elderly
- ◆ It is not a seldom event that poisonings among elderly go unnoticed and are either underestimated or unrecorded

RISK FACTORS

Older age stands on its own as a major risk factor for poisoning. Elderly people are at highly prone for an accidental poisoning due to their impaired vision, forgetfulness, and lack of knowledge or understanding of a product's intended use, possibly confusion episodes or dementia.

Specific examples of unintentional exposures to risk factors of poisoning among the elderly include:⁷

- ◆ taking or being given extra doses of a medication
- ◆ mistaking external preparations for oral taking of nonmedicines in error
- ◆ mistaking eye drops for ear drops (and vice versa)
- ◆ mistaking another person's or a pet's prescription for one's own, and
- ◆ taking a substance that has been decanted into a food container

Other factors with combination with age and gender can contribute to poisoning risk, such as:

- ◆ *Polypharmacy* is common in older age as morbidity increases⁸
- ◆ *Misidentification*, occurs when poisoning symptoms and effects are attributed to another disease or condition and along with underreporting severely complicate the estimation of the prevalence of poisonings among the elderly. Because poisoning can lead to deadly conditions among seniors, it is suggested that "any symptom in an elderly patient should be considered a drug side effect until proved otherwise"^{9,10}
- ◆ *Cognitive deficits*. Cognitive deficits including dementia, confusion, and memory loss increase with age.¹⁰ Older adults who struggle with cognitive deficits are more likely to accidentally ingest or inhale toxic household products such as detergents instead of mouthwashes, topical ointments instead of toothpaste or super glue instead of eye drops.
- ◆ *Illiteracy*. Elderly people who are functionally or marginally illiterate enough cannot read or comprehend labels.¹¹ High illiteracy rates and trouble comprehending instruction labels have serious implications for older adults using multiple medications and treatments with potentially serious adverse drug reaction possibilities.
- ◆ *Life events*. Life events including bereavement, illness, and retirement may also contribute to the poisoning risk.¹⁰ As older adults confront depression, grief, helplessness, or anxiety as a result of major life events, attention to their daily pharmaceutical therapies and routines may be compromised, potentially resulting in poisonings.

PREVENTION OF POISONING INJURIES

The majority of poisonings that occur among elderly are unintentional and may be amenable to poison prevention education,¹² although the data on evaluated interventions to reduce poisoning among elderly are scarce. Injury control strategies concerning pre-event, event, and post-event phases are also applied to poisoning and should be planned on the basis of an analysis of the major causes of unintentional exposures.^{13,14}

TIPS FOR ELDERLY AND CARE GIVERS

To prevent medicinal poisoning¹⁵

- ◆ Follow directions on the label when you give or take medicines. Read all warning labels. Some medicines cannot be taken safely when you take other medicines or drink alcohol
- ◆ Turn on a light when you give or take medicines at night so that you know you have the correct amount of the right medicine
- ◆ Keep medicines in their original bottles or containers
- ◆ Never share or sell your prescription drugs

To prevent monoxide exposure¹⁶

- ◆ Maintain regularly the heating system, water heater and any other gas, oil, or coal burning appliances by a qualified technician
- ◆ Seek prompt medical advice in case you suspect CO poisoning, feel dizzy, light-headed, or nauseous
- ◆ Don't use charcoal or gasoline grills, camp stoves, gas ovens and related devices inside the home

To prevent poisonings due to household chemicals¹⁷

- ◆ Always read the label before using a product that may be poisonous.
- ◆ Open windows when using chemical products such as household detergents
- ◆ Wear protective clothing (gloves, long sleeves, long pants, socks, shoes) if you spray pesticides or other chemicals
- ◆ You can make a poisonous gas by mixing chemicals such as ammonia and bleach; therefore, never mix them together
- ◆ Keep chemical products in their original bottles or containers. Do not use food containers such as cups, bottles, or jars to store chemical products such as cleaning solutions or beauty products

What to do if a poisoning occurs¹⁷

1. Remain calm
2. Call the Poisoning Center if you have a poison emergency and the victim has collapsed or is not breathing. Try to have this information ready:
 - ◆ the victim's age and weight
 - ◆ the container or bottle of the poison if available
 - ◆ the time of the poison exposure
 - ◆ the address where the poisoning occurred
3. Stay on the phone and follow the instructions from the emergency operator or poison control center.

TIPS FOR PROFESSIONALS

- ◆ Medication for elderly should be properly labeled and stored in their original containers
- ◆ Review of all current medication by pharmacists or physicians to avoid drug-drug interactions and adverse side effects
- ◆ Reduction in polypharmacy
- ◆ The use of daily dose boxes that can be filled by health professionals or carers to ensure that only the pills in that days box are ingested

Policy Recommendations¹

- ◆ Each member state in the EU and in the EEA should establish national action plans for prevention of injuries in elderly people.
- ◆ Each member state in the EU and EEA establish health based injury registration systems enabling sound and valid injury statistics to be produced. The EC should ensure that such systems are working.
- ◆ Each member state in the EU and EEA report the fatalities in elderly people according to common coding rules, ensuring that it is possible to compare mortality statistics across Europe. World Health Organisation should increase their efforts to create a common understanding of the coding system and to control the quality of the statistics.
- ◆ Each member state in the EU and EEA, together with the European Parliament and European Council establish one day of the year as a Day for Elderly Safety.
- ◆ Each member state in the EU and EEA build capacity for conducting research on injuries in elderly people: to understand their causes; to develop preventative measures; to plan and implement interventions; and to evaluate interventions for cost-effectiveness.
- ◆ Each member state in the EU and EEA develop networks at central and local levels to promote implementation of evidence-based best practices to reduce injuries in elderly people.

TIPS FOR POLICY MAKERS¹⁵

- ◆ Cooperation of manufacturers to include visible and older adult-friendly poison labels or symbols on specific product packaging that is frequently confused or to change the packaging designs of products so as to minimize confusion. Font sizes are often too small, and warning statements are not conspicuous
- ◆ Lobbying for the development of legislation to support changes in labeling and packaging

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