

REVIEW ΑΝΑΣΚΟΠΗΣΗ

Message 8: “Use safer products”

The role of consumer products in injury causation is crucial. It has been estimated that about 70% of all unintentional home and leisure injuries in the European Union (EU) are associated with consumer products. Risk groups and risk factors vary in relation to the consumption or use of particular products. Nevertheless, many product-related accidents, especially those concerning toys, can be prevented through the adoption of simple but important practices. This paper aims: (a) to describe the magnitude and the socio-economic burden of product related injuries in the countries of the EU, (b) to outline underlying risk factors and (c) to present evidence based preventive practices that reduce the likelihood of product related injury occurrence. Some of these measures are therefore included in the European Code Against Injuries (ECAI) aiming to raise public awareness regarding injury prevention. The major focus of the respective ECAI section is dedicated on children’s safety given that children under the age of three comprise the most vulnerable group for product-related injuries.

1. DEFINITION

There are many definitions of a “Safe Product” laid down in legislation across the world. One of the most widely accepted is the one given in the European Union’s Directive 2001/95/EC¹ on general product safety. This defines a “Safe Product” as “Any product which under normal or reasonably foreseeable conditions of use presents no risk or only the minimum risk compatible with the product’s use and which is consistent with a high level of protection for consumers”.

A “product” in this context and as addressed by the European Code Against Injuries is taken to be a manufactured artifact. The definition does not include other items that may be colloquially referred to as products; natural substances such as foodstuffs, pharmaceuticals, features of the natural environment such as trees or plants, air, fire or water, animals or other living organisms. The definition of a “product” when used in legislation and standards goes beyond the product itself and covers: (a) all product characteristics, (b) packaging unique to that product and supplied with it, (c) instructions for assembly, maintenance, use and disposal and (d) labeling and other information provided.¹

The concept of “use of a product” includes the use

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Μήνυμα 8: «Χρησιμοποιείτε ασφαλή προϊόντα»

Περίληψη στο τέλος του άρθρου

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of the product with other products with which it might be used, either by design or by reasonable expectation. The quality of “Product Safety” is thus extrinsic to the product as well as intrinsic. Categories of consumers at risk, particularly children and older people, are extrinsic factors taken to be part of the product. For example, if a product is intended to be used by children, then this aspect is regarded as contributing towards any judgment of the safety of the product itself.²

Injuries involving products are a huge and diverse group; likewise there are multiple solutions to addressing the issue of product safety. Information on product involvement is widely included in the most typical accident and injury surveillance systems, but it is usually impossible to identify the exact nature of product involvement at the time that details of an injury are collected for subsequent transcription to an injury database. Large numbers of injuries involving products go unreported. Those that do find their way onto some sort of injury database tend to be the more serious, but this is not always the case.³

2. MAGNITUDE OF THE PROBLEM

It has been estimated that about 70% of all unintentional home and leisure injuries in the European Union (EU) are

associated with consumer products.⁴ This indicates around 35,000,000 product related injuries per year to consumers, but it should be noted that this excludes occupational accidents and road traffic accidents. Attempts to address the issue of product injury prevention usually start by classifying consumer products into main categories, and there have been many attempts to do this. Broad brush estimates of total injuries and accidents within the EU can be estimated using the Injury Database (IDB);⁴ this is not a representative sample of the EU as a whole, and at present it serves only to suggest "order of magnitude" estimates of principle accident and injury categories for the EU as a whole.

In the EU there are over 3 million product related accidents each year associated with personal items, including cosmetics, jewellery, and personal electrical items such as hairdryers, curling tongs, toothbrushes, etc.⁴ More specifically, 2,000,000 to 3,000,000 product related accidents are associated with products such as 'do-it-yourself' tools and equipment, household furniture (other than child furniture), and cycles and other vehicles unlicensed for road use. 1,000,000 to 2,000,000 product related accidents per year involve food and drink products as well as sports' equipment whereas 500,000 to 1,000,000 product related accidents per year are caused by kitchen equipment and utensils, clothing and footwear, household furnishings including carpets, wall coverings, containers and packaging, and glass items. Moreover, between 100,000 to 500,000 product related accidents per year involve playthings, toys and games, garden equipment including electrical and non-electrical items, and child products - primarily furniture and child transport e.g. pushchairs. The rest of the product groups are associated with fewer than 100,000 accidents per year. It can be observed that there are very few non-fatal accidents involving smoking materials⁵ and medicinal products, although these products feature prominently in mortality statistics.

Mortality statistics generally do not include details of product involvement.⁶ In the UK there is a recorded product involvement for about 25% of all fatal home and leisure accidents. There are probably around 5,000 annual fatalities in the EU which are associated with consumer products, 80% of which are associated with the major categories of smoking implements and sources of ignition, medical products, heating and ventilation equipment and household furniture accidents. This figure does not include motor vehicle fatalities.⁴

Over the last two decades of the 20th Century and the first years of the 21st century, worldwide initiatives have

been taken aiming to improve product safety standards and legislation. The EU and EU Member States have been in the forefront of this drive for product improvement, and it should be noted that EU standardization was initiated by the European Committee for Standardization (CEN) and the European Committee for Electrotechnical Standardization (CENELEC), which both cover a wider European Region than the enlarged European Union Area of 27 Member States. Co-operation between European and global standards making bodies, notably International Standard Organization (ISO) and International Electrotechnical Commission (IEC), has meant that product safety has been increasingly addressed on a global industrial scale for about three decades.

3. RISK FACTORS

One of the major problems associated with studying product injuries is the huge range of different consumer products. It is estimated that there are more than 200,000 "different" consumer products on the global market of which half are toys, manufactured by millions of different bodies.^{7,8} Many products, especially toys, have a short life cycle; for example it is estimated that for toys alone the average life cycle is 3 years. New products in the market can hide new risks, thus they require a revision of assumptions in order these risks to be understood. Risk groups and risk factors vary in relation to particular products and different types of products vary with the age of the consumer.

3.1. Demographic risk factors

The principle socio-economic burden of product related accidents and injuries falls upon children, as about 40% of all non-fatal accidents reported to formal accident and injury surveillance systems concerns the age group of 5-14 years.² Children aged less than 3 years are at highest risk for death and injury from mechanical airway obstruction.⁹ This is due to their immature anatomy and developmental stage, as children of this age do not have a fully developed set of teeth for thorough chewing. Moreover they lack the experience and cognitive skills to avoid choking, thus, they forget to eat slowly and to chew well. In addition, those children are at greater risk due to their natural tendency to put everything in their mouth, while they are trying to learn about the world around them by reaching things.⁹

Toy related injuries occur most often among males (65%).¹⁰ Furthermore, about half of all injuries occur above the neck and involve the face (24%), head (12.5%) and mouth (7%); fingers account for 7.5% of injuries, arms,

from shoulder to finger account for 24% of injuries, while the leg and foot area account for 17%.¹⁷ For older people, the scale is reversed with around 40% of fatal accidents occurring to those aged 65 and over.¹²

Numerous studies have identified socio-economic factors particularly such as social deprivation, poverty, poor education and particularly low linguistic skills as factors likely to be associated with increased accident and injury rates where products are involved.¹³ This happens due to the fact that socially deprived groups use mainly older products with intrinsically less safe designs and/or poor maintenance or even second-hand products, which are usually unable to repair or maintain.¹⁴

3.2. Environmental risk factors

The environment is strongly related to risks of safe product use.¹⁵ Among the most prominent environmental factors is the use of products outdoors, such as "Do it yourself" or gardening equipment, related to features of the environment such as lighting and visibility or the security of the footway. Environmental factors are always implicated in some way in product injuries. It seems that the most common reported locations for product related accidents are home, streets, outdoor sport facilities, school/college grounds, parks and the countryside.⁴

Children can swallow, inhale or choke on items such as small toys, peanuts and marbles. Inappropriate foods and other objects in the surroundings also increase the risk of choking. Foods that are round or cylindrical and pliable or most compressible most effectively form an airplug. Such foods are: hot-dogs, nuts, candies, grapes, seeds and eggshells.¹⁵ Of all children's play products, rubber balloons, small balls and marbles are the leading cause of suffocation deaths and for non-food objects: coins and pills.¹⁶ In addition small household items may be choking hazards.

Moreover, environmental factors, such as distractions during eating, can contribute to the risk of choking. Also poor parental supervision is a high risk factor for product-related injuries among children. Children are more likely to choke when fed by a sibling, as food may not be properly cut or inappropriate foods may be given to the younger child. The presence of older siblings in the household increases the risk for choking, since toys with small parts may be more easily accessible.⁹ In addition, age-appropriate toys or damaged toys with sharp edges, household and child furniture and inappropriate use of sports equipment, are also considerable risk factors for

product-related injuries in childhood.¹⁷

Among older people, soft/slick foods are the most common cause of asphyxiation, while in contrast younger people choke more often on large pieces of foreign material and show a significantly higher rate of blood alcohol concentration.¹⁸ Some other risk factors, mostly related with food asphyxiation are: poor dentition, alcohol consumption, chronic disease, sedation and eating "risky foods".¹⁹

3.3. Behavioural risk factors

Behaviour plays a major role in most product related accidents and injuries.²⁰ It is well established that consumers have a wide range of attitudes towards risk, with some being risk averse while others accept high levels of risk. Some consumers rigorously follow safety instructions whilst others either do not read safety instructions or purposely ignore them. Maintenance and repair of consumer products is known to be widely neglected, although there is not enough evidence from data, since these aspects are not generally recorded by injury and accident databases.²¹ Misuse of products may not always have safety implications.

4. EFFECTIVE PREVENTIVE PRACTICES

Many product-related accidents, especially those concerning toys can be avoided through increased awareness, improvements in the home environment and greater product safety. Product safety rules are enacted concerning the details of safe design and often have been proven effective in controlling the risk of injury.^{22,23} Prevention of product related accidents and injuries follow two major routes: (a) Safer products, achieved by regulation and standards and (b) safer use of products through consumer education.

- Regulation and Standards

Standards are the primary route to product safety. Standards go beyond the intrinsic safety of the product itself to include important factors extrinsic to the product such as information, education and user behaviour. They promise the widespread acceptance of best practice over accepted practice, and can deliver the safest product designs possible. To do this, standards draw on the widest possible knowledge base, bringing together the experience and expertise of all related parties. The strength of the standards approach is that it is essentially a knowledge management and knowledge transfer process.

In the EU there is a general duty placed on producers and distributors to place on the market (or supply) only products that are safe in normal or reasonable foreseeable use.⁷ The use of standards is essential to ensuring the safety of consumer products. Although standards are designed for voluntary use and do not themselves impose any regulations, in law many countries insist that products should conform to a standard before they can be offered for sale in that country. Within the EU there are many legal requirements that all products on sale must conform to the standard requirements of a European Directive. Safety professionals from a variety of backgrounds are involved in the various standards making processes, and these professionals always have access to appropriate knowledge bases and data sources (see EUNESE and eventually APOLLO).

Standards may be used as flexible lighter-touch alternatives to regulation.²⁴ Standards can offer many advantages to the manufacturers, ensure that consumer interests are met and technological advances address issues of product safety from the outset. Standards are becoming increasingly effective in improving the safety of established products and also ensuring that any products new to the market are safe. To this end, the standards making process need to be supported by individuals who understand and sensibly apply relevant knowledge.

The effectiveness of standards and legislation has been exhaustively researched. The worldwide standards making process is now a globalised self-feedback process wherein standards are developed, revised in response (inter-alia) to known safety problems, the efficacy of the new standards then being tracked after the new standards have been implemented.²⁴ As all informed inputs are welcome to join this process, there are inbuilt opportunities for anyone wishing to take forward elements or all of the ECAI and to use the APOLLO knowledge base to constructively advance the standardization process. Special mention must be made of improvements in product recall systems, which use manufacturers' own quality control systems as well as public surveillance to identify and remedy breaches of product safety.

- Consumer Education

Consumer education can be addressed either to consumers themselves, or to and through third parties who work with consumers such as safety professionals, journalists, teachers, head teachers, voluntary groups, charities, emergency services, academics researching safety including university staff, students and others. Standards making

processes are now taking much more seriously the need to inform and educate consumers through instructions, labeling and other related awareness initiatives.

Probably one of the most effective messages relating to product safety is "read and follow the instructions provided by the supplier of the product, then keep the instructions where you can access them and refer to them as necessary thereafter".²⁵ However, some of the most hazardous consumer products do not typically come with safety instructions, and it is known that instructions are invariably discarded or lost.²⁶

Because children can be injured while using toys designed for an older child, it is essential to use only toys that are appropriate for their age.¹⁷ Labels can help parents to find toys that have been designed to best fit a child's age, abilities and interests. They should take into account the manual and thinking skills required for a child to handle and enjoy the toy and provide an important guide as to whether or not a toy is safe for his/her particular age. Moreover toys should be checked periodically for breakage and loose, small parts, in order to ensure that have not become hazardous, and fix them or throw them away if they are broken.¹⁰

Parents should supervise their children while playing and help them learn how to enjoy toys safely.¹⁷ Furthermore parents or caregivers should demonstrate proper play when a toy is first used and periodically monitor children's play to check for improper use of toys.¹⁰ Thus it is really important to teach children safety rules and teach older children to keep toys and dangerous objects away from their younger siblings.²⁷

5. CONCLUSION

Consumer products are often involved in unintentional home and leisure injuries in the EU. Nevertheless evidence shows that injuries due to misuse or unforeseeable use of products can be prevented if specific safety practices are thoroughly adopted. To this end, ECAI messages could be one piece of a comprehensive strategy that needs to be developed in order to prevent future product related injuries. Preventive messages that could make a difference were they to be adopted by EU citizens are the following:

- Use products for their intended use and age group and respond to product recalls and warnings.
- Select products that meet safety standards; read and follow the safety recommendations on labels and in the manual.

- When selecting toys, consider the child's age and development, avoid small toys or toys with small removable parts which can be a deadly suffocation risk to children under three years of age.
- Teach older children to keep their toys away from younger brothers and sisters.
- Inspect toys regularly for damage and potential hazards such as sharp edges. Discard broken toys immediately,

making sure children cannot get hold of them.

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ΠΕΡΙΛΗΨΗ

Μήνυμα 8: «Χρησιμοποιείτε ασφαλή προϊόντα»

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Ο ρόλος της κατανάλωσης ή χρήσης προϊόντων κρίνεται ιδιαίτερα σημαντικός. Έχει εκτιμηθεί ότι περίπου 70 % όλων των ακούσιων τραυματισμών στο σπίτι ή κατά τον ελεύθερο χρόνο, στην Ευρωπαϊκή Ένωση, σχετίζονται με τα καταναλωτικά προϊόντα. Οι ομάδες καθώς και οι παράγοντες κινδύνου ποικίλλουν ανάλογα με το είδος του προϊόντος. Ωστόσο, πολλά από τα ατυχήματα, και ειδικά αυτά που οφείλονται στη χρήση παιχνιδιών, μπορούν να προληφθούν μέσω της υιοθέτησης απλών αλλά πολύ σημαντικών πρακτικών. Αυτή η εργασία στοχεύει: (α) να περιγράψει την έκταση του προβλήματος και τις κοινωνικο-οικονομικές επιπτώσεις των ατυχημάτων που προκαλούνται από την κατανάλωση ή χρήση προϊόντων στις χώρες της Ευρωπαϊκής Ένωσης, (β) να επισημάνει τους υποκείμενους παράγοντες κινδύνου, και (γ) να παρουσιάσει τις επιστημονικά αποδεδειγμένες πρακτικές που μειώνουν την πιθανότητα ατυχημάτων που προέρχονται από κατανάλωση ή χρήση προϊόντων. Μερικές από αυτές τις πρακτικές έχουν συμπεριληφθεί στον Ευρωπαϊκό Κώδικα Κατά των Ατυχημάτων, προκειμένου το κοινό να ενημερωθεί σχετικά με την πρόληψη των ακούσιων τραυματισμών. Κύρια έμφαση του σχετικού πεδίου του Ευρωπαϊκού Κώδικα Κατά των Ατυχημάτων έχει δοθεί στα παιδιά δεδομένου ότι αποτελούν την πιο ευπαθή κατηγορία για ατυχήματα που οφείλονται σε κατανάλωση ή χρήση προϊόντων.

Λέξεις ευρετηρίου: Ατυχήματα από προϊόντα, Ευρωπαϊκός Κώδικας Κατά των Ατυχημάτων, Παιδική ασφάλεια, Πρόληψη

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