



ORIGINAL ARTICLE

## Use of sanitizing products: safety practices and risk situations<sup>☆</sup>

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### Abstract

**Objectives:** to evaluate the handling and risk factors for poisoning and/or digestive tract injuries associated with the use of sanitizing products at home.

**Methods:** interviews were conducted in 419 households from different regions, collecting epidemiological data from residents and risk habits related to the use and storage of cleaning products.

**Results:** sanitizing products considered to be a health risk were found in 98% of the households where the research was conducted, and in 54% of cases, they were stored in places easily accessible to children. Lye was found in 19%, followed by illicit products in 39% of homes. In 13% of households, people produced soap, and in 12% they stored products in non-original containers. The use of illicit products and the manufacture of handmade soap were associated with lower educational level of the household owners and with the regions and socioeconomic classes with lower purchasing power.

**Conclusions:** risk practices such as inadequate storage, manufacturing, and use of sanitizing products by the population evidence the need for public health policies, including educational measures, as a means of preventing accidents.

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**PALAVRAS-CHAVE**

Cáusticos;  
Corrosivos;  
Prevenção de  
acidentes;  
Grupos de risco;  
Produtos saneantes

**Uso de produtos saneantes: práticas de segurança e situações de risco****Resumo**

*Objetivos:* avaliar a forma de utilização e os fatores de risco para intoxicações e/ou lesões do trato digestório associados ao uso dos produtos saneantes no domicílio.

*Métodos:* foram realizadas entrevistas em 419 domicílios de diferentes regiões, estabelecendo-se dados epidemiológicos dos moradores e hábitos de risco relacionados à utilização e armazenamento dos produtos de limpeza.

*Resultados:* dos domicílios onde foi realizada a pesquisa, havia produtos saneantes considerados de risco em 98%, sendo que em 54% dos casos, eles estavam armazenados em locais de fácil acesso para crianças. A soda cáustica estava disponível em 19% e os produtos “clandestinos” em 39% das moradias. Em 13% dos domicílios havia o hábito de fazer sabão e em 12% de armazenar os produtos fora da embalagem original. O uso de produtos clandestinos e a fabricação artesanal de sabão estavam associados à baixa escolaridade das donas das casas e às regiões e às classes econômicas de poder aquisitivo mais baixo.

*Conclusões:* práticas de risco como armazenamento, fabricação e utilização inadequados de produtos saneantes pela população estudada apontam para a necessidade de políticas de saúde pública, incluindo medidas educacionais, como forma de prevenção de acidentes.

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**Introduction**

Poisonings are responsible for high morbidity and mortality in childhood. An unsafe environment is a risk factor for injuries and poisoning in children.<sup>1</sup> Accidental ingestion of caustic substances, which are found in many cleaning products, are among the major injuries resulting from an unsafe environment, particularly in developing countries,<sup>1,2</sup> where these cases are often underreported. Sanitizing products are “substances or preparations intended for use on objects, fabrics, inanimate surfaces, and environments with the purpose of cleaning, disinfecting, disinfecting, sanitizing, deodorizing, and odorizing, as well as disinfection of water for human consumption, horticultural produce, and pools”, comprising: 1) cleaning products in general, and similar; 2) disinfectants, sterilizing agents, sanitizers, deodorizers, and disinfectants used in water for human consumption, horticultural produce, and pools, and 3) insecticides.<sup>3</sup>

Despite the underreporting, there have been reports, in Brazil and across the world, of cases of human poisoning and serious injuries caused by sanitizing products. Records of the American Association of Poison Control Centers (AAPCC) evidence that in 2009, there were 2,479,355 cases of human poisoning; cleaning products were responsible for 212,616 (7.4%) of all cases and for 125,394 (9.3%) of the total cases in children younger than 5 years, second only to cosmetics (13.0%) and analgesics (9.7%).<sup>4</sup>

In Brazil, data from the National Poison and Pharmacological Information System (Sistema Nacional de Informações Tóxico Farmacológicas - SINITOX) evidence that, in 2009, there were reports of 100,391 cases of human poisoning; 10,675 (10.63%) of them were caused by sanitizing products, and half (5,091) of the cases occurred with children younger than 5 years.<sup>5</sup> Brazilian and global data confirm a higher prevalence of such accidents in children younger than 5 years and in males.<sup>2,6,7</sup>

Among the sanitizing products, those containing caustic substances must be emphasized, as they cause serious injuries to the digestive tract, which can lead to an increased risk for developing esophageal cancer.<sup>8</sup> In addition, the ingestion of caustic products remains the leading cause of severe esophageal stenosis in children, representing the second leading cause of esophageal replacement in this age group,<sup>9</sup> with greater difficulty regarding the dilating therapy and a higher rate of recurrence when compared to other types of esophageal stenoses.<sup>10</sup>

In pediatric patients, most cases occur by accident. The storage of cleaning products in inadequate places and the way they are used have been identified as possible risk factors for these accidents to occur.<sup>11</sup> Most accidents occur at home<sup>12,13</sup> and at relatives' homes,<sup>12</sup> where children are exposed to improperly stored toxic substances.<sup>14</sup> Other sociodemographic conditions associated with ingestion of caustic substances have been identified, such as: low maternal educational level, large families, maternal age younger than 30 years, and working mother.<sup>12</sup>

In Brazil, there have been no studies that demonstrated how these products are used in the household or identified risk factors for poisoning and/or injuries of the digestive tract. Thus, the current study aimed to assess the use and storage of household sanitizing products by the population of the Federal District, according to its different regions, socioeconomic classes, and educational levels regarding the presence or absence of children.

**Methods**

This research was conducted in the Federal District (Brazil), a region that has a population of 2,570,160 inhabitants.<sup>15</sup> The sample was calculated to be representative of this population, based on the number of households per administrative region (AR) published by the Planning and

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