



# Detergent pods and children: a health hazard on the rise

Husayn Gulamhusein<sup>1</sup> · Kourosh Sabri<sup>1,2</sup>

Received: 12 August 2020 / Accepted: 16 August 2020 / Published online: 10 December 2020

© Canadian Association of Emergency Physicians (CAEP)/ Association Canadienne de Médecine d'Urgence (ACMU) 2020

**Keywords** Chemical · Detergent · Laundry · Pod · Eyes · Ophthalmology

Dear Editor,

Laundry detergent pods are an increasingly popular household cleaning product. During a washing cycle, laundry detergent pods are immersed in water which result in the disintegration of the outer shell and release of detergent. Concerningly, laundry detergent pods may prematurely release their contents if they come into contact with moisture, such as inside a child's mouth, or if sufficient pressure is applied to burst them open, including being bitten or squeezed by a young child.

Several exposure routes exist in the context of detergents and children, including ingestion, skin contact, and ocular exposure. Ingestion of detergent may lead to numerous systemic features including dyspnea, vomiting, diarrhea, and central nervous system depression [1]. Severe reactions may lead to pneumonitis, pharyngeal swelling, and upper airway inflammation requiring intensive care. Skin contact may result in rashes, blisters, and burns. The face is most commonly involved, followed by the hands and fingers [1].

Conjunctivitis is the most commonly described ocular feature of exposure followed by corneal abrasions or epithelial defects [2]. While healing is often quite rapid with corneal abrasions, significant morbidity may occur, with reports of delayed healing greater than two weeks. In 2015, it was estimated that one-quarter of all chemical ocular injuries in the United States were associated with laundry detergent pods [3].

At our tertiary ophthalmology center in Ontario, Canada, we unfortunately see ten to fifteen cases a year of children

with such presentations. Furthermore, anecdotally speaking, we have seen an increase in cases over the past year during the COVID-19 crisis. We suspect that children are spending more time indoors and have increased opportunities to handle laundry detergent pods within their households.

Public health efforts have been made to encourage the manufacturers of laundry detergent pods to limit the exposure potential of their products to children. Enhanced warning icons, opaque packages, and child-proof lids have been implemented by some manufacturers. However, it is unclear whether the rates of adverse exposures to laundry detergent pods after such interventions have decreased at a population level [1]. This is exacerbated by the fact that off brand and generic laundry detergent pods often do not engage in child-proof packaging and manufacturing.

In conclusion, laundry detergent pods are a commonly used household cleaning item associated with significant risk. There is clearly a need for a renewed effort to reduce the morbidity associated with laundry detergent pods. More needs to be done from a manufacturing and marketing perspective to reduce the pediatric morbidity associated with exposure to these potentially harmful products.

**Author contributions** HG: Conception and design, writing of manuscript; KS: Conception and design, writing of manuscript; All co-authors have had the opportunity to review the final manuscript and have provided their permission to publish the manuscript.

**Funding** None.

## Compliance with ethical standards

**Conflict of interest** The authors declares that they have no conflict of interest.

✉ Kourosh Sabri  
sabrik@mcmaster.ca

<sup>1</sup> Department of Ophthalmology, McMaster University, Hamilton, ON, Canada

<sup>2</sup> 3V2 Eye Clinic, McMaster Children's Hospital, 1200 Main Street West, Hamilton, ON L8N 3Z5, Canada

## References

1. Day R, Bradberry SM, Jackson G, Lupton DJ, Sandilands EA, Thomas HL, et al. A review of 4652 exposures to liquid laundry detergent capsules reported to the United Kingdom National Poisons Information Service 2008–2018. *Clin Toxicol Phila Pa.* 2019;57(12):1146–53.
2. Williams H, Jones S, Wood K, Scott RAH, Eddleston M, Thomas SHL, et al. Reported toxicity in 1486 liquid detergent capsule exposures to the UK National Poisons Information Service 2009–2012, including their ophthalmic and CNS effects. *Clin Toxicol Phila Pa.* 2014;52(2):136–40.
3. Haring RS, Sheffield ID, Frattaroli S. Detergent pod-related eye injuries among preschool-aged children. *JAMA Ophthalmol.* 2017;135(3):283–4.