

dyspnoea and chest tightness as well as bronchitis and bronchiolitis with interstitial pneumonitis, airway obstruction and decreased pulmonary function.^[2] We recommend that the departments of Education, Health and Environmental Affairs, together with relevant non-governmental organisations, urgently draft a fluorescent lamp management policy for South African schools, and that appropriate education, awareness and monitoring programmes be undertaken to ensure the proper implementation of such policies to protect the school environment and the health of South African children.

Wellington Siziba

Environment and Health Research Unit, Medical Research Council, and Faculty of Health Sciences, University of Johannesburg, Johannesburg, South Africa
wellington.siziba@mrc.ac.za

Nisha Naicker

Environment and Health Research Unit, Medical Research Council, Johannesburg, South Africa

Angela Mathee

Environment and Health Research Unit, Medical Research Council, and Faculty of Health Sciences, University of Johannesburg, South Africa

André Swart

Faculty of Health Sciences, University of Johannesburg, South Africa

Recommendations for the handling of fluorescent lamps in public schools in Johannesburg, South Africa

To the Editor: Fluorescent lamps are regarded as hazardous waste because of their mercury content.^[1] Mercury has toxic properties that may have acute or chronic detrimental impacts on human health and the environment.^[2-4] A study was recently undertaken with the objective of determining the availability of guidelines for the handling of fluorescent lamps in selected public schools in Johannesburg, South Africa. The study was undertaken under the umbrella of the World Health Organization Collaborating Centre for Urban Health's Health, Environment and Development (HEAD) study.^[5] The sample included 22 public schools from within and in the immediate vicinity of the five HEAD study sites, Hillbrow, Bertrams, Riverlea, Braamfischerville and Hospital Hill. A structured questionnaire and observation checklist was administered, typically to the school principal.

Of the study schools, 18% had informal guidelines regarding storage of fluorescent lamps before use (64% had none and 18% were 'not sure'), 9% had informal guidelines for cleaning of spillage from broken lamps (82% none, 9% 'not sure'), and 9% and 14% had informal guidelines for storage and disposal, respectively, of lamps after use (82% and 77% none, 9% 'not sure' for both). No school had formal (i.e. written) guidelines.

There appear to be no official recommendations on fluorescent lamp management in Gauteng public schools. Instead, a general policy on risks in schools makes brief reference to light bulbs. In countries such as the USA, the hazard of mercury in schools has been seriously considered and dealt with by the Environmental Protection Agency.^[6] Childhood exposures to elemental mercury often result from inappropriate handling or clean-up of spilled mercury, so primary prevention measures such as health education and policy initiatives are important.^[7] Acute exposure to mercury vapour (>0.1 mg mercury/m³) causes respiratory effects such as cough,

- Lombard JE, Webb PS. What Happens When The Lights Go Out? The 9th Waste Management Conference of the Institute of Waste Management of Southern Africa (IWMSA), 6-10 October 2008, Durban, pp. 439-449. http://ewasteguide.info/files/Lombard_2008_WasteCon.pdf (accessed 22 October 2009).
- World Health Organization. Guidance for identifying populations on risk from mercury exposure, pp. 2-4. 2008. <http://www.chem.unep.ch/mercury/IdentifyingPopnatRiskExposuretoMercuryFinalAugust08.pdf> (accessed 22 October 2009).
- North Carolina Division of Pollution Prevention and Environmental Assistance. Fluorescent Lamps and Mercury. 2009. <http://www.p2pays.org/mercury/lights.asp> (accessed 25 August 2009).
- Reclite. E-waste in South Africa. Lighting lamps. 2008. <http://www.ita.org.za/.../EWASTE/IN/SOUTH/AFRICA/Pres.pdf> (accessed 25 August 2009).
- World Health Organization Collaborating Centre for Urban Health. WHOCCUH Annual Report, pp. 4-7. 2007. http://www.mrc.ac.za/healthdevelop/ar07_who_part3.pdf (accessed 12 December 2013).
- United States Environmental Protection Agency. Compact fluorescent light bulbs (CFLs). Last updated 9 July 2013. <http://www.epa.gov/mercury/schools.htm> (accessed 12 December 2013).
- Lee R, Middleton D, Caldwell K, et al. A review of events that expose children to elemental mercury in the United States. *Environ Health Perspect* 2009;117(6):871-877. [<http://dx.doi.org/10.1289/ehp.0800337>]

S Afr Med J 2014;104(7):457. DOI:10.7196/SAMJ.8052