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Study on toxic heavy metals in *Cordyceps* and *Bulbus lili* Chinese medicinal materials and finished products retailed in Singapore

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Chinese Medicinal Materials (CMM) (also known as Chinese medicinal raw herbs) and Chinese Proprietary Medicines (CPM), being natural in nature, have been perceived by the public as relatively low risk. However, they are not completely free from the possibility of toxicity or other adverse effects. Potential harm can occur due to inherent toxic properties of the herbs, as well as contaminants or adulterants in CMM and CPM. Previously, various heavy metal surveys performed by the health authorities of China (in 2016) and Taiwan (in 2006) have indicated presence of high levels of arsenic in *Cordyceps* and high levels of cadmium in *Bulbus Lili*. As China and Taiwan are major suppliers of CMM and CPM in Singapore, such findings in China and Taiwan raised safety concerns regarding raw and finished products of *Cordyceps* and *Bulbus Lili* sold in Singapore. Hence, as a follow-up to a smaller pilot-study conducted in Singapore (2015/2016), a more extensive survey was carried out by the Pharmaceutical Laboratory of the Health Sciences Authority in 2017 to study the levels of arsenic, lead, mercury and cadmium present in 20 CMM samples of *Cordyceps* and *Bulbus Lili*, as well as in 17 CPM samples containing these herbs retailed locally, using Inductively-Coupled Plasma Mass Spectrometry (ICP-MS) technique. The results of this study are presented in this poster; these findings would be useful for facilitating the review of regulatory controls on toxic heavy metals in Chinese medicinal raw herbs and Chinese proprietary medicines, retailed in Singapore.

Biography

Cuilian Sun has obtained her PhD from the National University of Singapore. She is currently the Deputy Laboratory Director of the Pharmaceutical Laboratory, at the Health Sciences Authority in Singapore. She leads the ASEAN Reference Substances Project and is actively involved in the development of western medicine monographs for the International Pharmacopoeia of the World Health Organization (WHO).

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