Coal-burning type of endemic fluorosis in China – From basic research to clinic prevention

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Endemic fluorosis widely occurs in the world and is characterized by skeletal and dental fluorosis and a vast array of pathological changes in whole bodies, which has been proved by our large number of basic investigations. Coal-burning type of endemic fluorosis is the severest one, which was confirmed in China in 1970’s. This type of endemic fluorosis is primarily induced by fluoride-contaminated food and air indoor caused by smoke emitted during burning coal, which contains a high concentration of fluoride. In China, about 36 millions of people live in such areas of coal-burning type of endemic fluorosis. Among the population, 18 millions are suffered from dental fluorosis and 1.5 millions skeletal fluorosis. Since 1980, an efficient strategy relating integrated control has been carried out for eliminating the disease in in China. After taking the measurement for many years, the adapted coal-burning stoves have been set up and the improve health education obtained in most of families in the endemic fluorosis areas, which brings the significant decline of fluoride contamination on food and air indoor. The strategy has successfully resulted in a significant decrease in the numbers of the patients with dental and skeletal fluorosis, and in a great improvement in health conditions of the people lived in the areas. At present, the coal-burning type of endemic fluorosis in China has been efficiently controlled at present. Importantly, it is necessary to take a long-period of integrated control for efficiently eliminating the hazard of coal-burning type of endemic fluorosis.

Biography
Zhi-Zhong Guan completed his PhD from Karolinska Institutet, Sweden in 1997. He is the Director of the Key Lab of the Endemic and Ethnic Diseases in Education Ministry of China. He has published more than 400 papers (including more than 100 SCI collected papers) in peer-reviewed journals and has been serving as an Editorial Board Member or reviewer of several journals.

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