

Carcinogenic risk assessment on groundwater typical pollutants in an agricultural area, NE China

F.X.ZHENG¹, Y.Z.ZHAI^{1*}, J.W.WANG¹

¹ College of Water Sciences, Beijing Normal University, Beijing 100875, China (*correspondence: diszyz@163.com)

Materials and Methods

Over the past decades, with human activities increasing in Songnen Plain (NE China), carcinogenic risk caused by pollution groundwater has also been rising [1, 2]. Therefore, natural waters including 368 mining layer waters were sampled to analyse. Results showed that As was the typical carcinogenic pollutant in the study area. The research analysed carcinogenic risk of different populations when facing As.

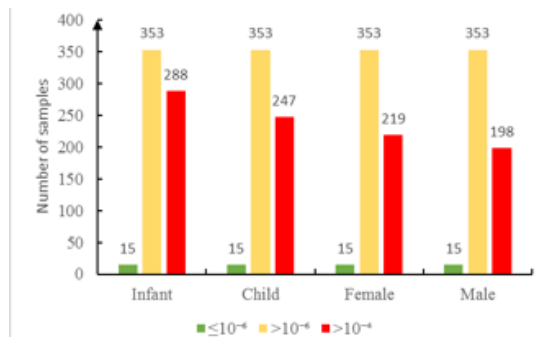


Figure 1: Samples numbers of carcinogenic risk parameters to different populations.

Discussion of Results

Among the 368 sampling points in the study area, there are 15 points calculated value lower than 10^{-6} . That is to say, people live around these points can almost ignore the carcinogenic risk. But for the points higher than 10^{-4} , the carcinogenic risk should be taken seriously [3]. In summary, for all four different populations, the potential carcinogenic risk caused by As has exceeded the acceptable levels. It should be noted that all these results were calculated by natural state of groundwater. So we suggest that reduce As pollution and Pre-drinking treatment of groundwater are both necessary.

[1] Zhai *et al.* (2017) *Ecotox Environ Safe* **137**, 130-142. [2] Zhang *et al.* (2017) *Hum Ecol Risk Assess* **23**, 276-298. [3] Sharafi *et al.* (2019) *Food Chem* **280**, 294-302.