

In Kumar et al. 's “Sobol sensitivity analysis for risk assessment of uranium in groundwater,” they found how different parameters influenced human health impact from Uranium exposure. In this paper, they discussed two different models, ingestion and dermal contact models. The parameters for these models included: uranium concentration in groundwater, intake rate, exposure frequency, and body weight (ingestion model). The dermal contact model had the same parameters as well as fraction of contact with skin and water pollution, exposure time during shower, and skin surface area. The results showed that the most influencing parameters are concentration in groundwater, intake rate, and exposure frequency, in that order; the first two parameters were more sensitive in adults while the latter was more sensitive to children. These results are important because knowing how these parameters influence human health can influence different management policies. For example, knowing that human health hazards are more sensitive to uranium groundwater concentration can help us to focus specific efforts to reduce groundwater concentrations (if this is possible) since it will make the biggest impact. In addition, knowing which parameters influence different age groups more, can help us target specific efforts to different demographics. If the intake rate influences children more, maybe it is more important to limit children’s intake of groundwater. In these ways, sensitivity analysis can be helpful in incorporating more knowledge and management in effective ways.