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## Estimation of Reference Values for PFOS and PFOA in Human Biomonitoring and Relevance of Exposure among Family Members in China

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### ABSTRACT

The reference values of serum perfluorooctane sulfonate (PFOS) and perfluorooctanoate (PFOA) concentrations were evaluated based on the human blood samples collected from Kashi, Xinjiang. And human serum samples of family members from Liaoning were evaluated for levels of PFOS and PFOA with the purpose to compare exposure pathways for family members. Among the 110 blood specimens from Kashi, the detection frequency of PFOS and PFOA was 93% and 6%, respectively. Reference values of serum PFOS, evaluated as the 90th percentiles of the concentrations, were determined to be 6.44 µg/L. Significant positive correlations were observed for serum levels of PFOS and PFOA among family members in Liaoning. Specially, stronger correlation between mother and offspring was observed than that between father and offspring. And stronger correlation of serum PFOS and PFOA levels was observed among family members in rural areas than those in big and small-medium cities. Difference in the association of serum PFOS and PFOA level among family members suggested that exposure in the outdoor and working environment of different occupations should be evaluated. Present study provides reference values for exposure assessment in China and potential pathways of human exposure to PFOS and PFOA.

### KEYWORDS

Perfluorinated Compounds; Human Biomonitoring; Reference Value; Exposure; Family Member

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