PS-002 EFFECTS OF E-WASTE EXPOSURE ON THE SYNTHESIS OF HAEMOGLOBIN IN PRESCHOOL CHILDREN

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Objective Guiyu is the major electronic-waste (e-waste) recycling town in China. This study was to measure the effect of e-waste exposure on the synthesis of haemoglobin (Hb) in preschool children.

Methods 222 children lived at Guiyu town and 204 children lived in a no e-waste polluted town were chosen to test their Hb levels. The 96 children in both the e-waste and control groups completed the food diary (FD). Associations between fish intake and Hb were analysed.

Results 96 children were recruited and 38 of them completed the FD. Among these 96 children and those who have FD data, 55% and 50% were high fish consumers, respectively. The mean ratio of iHg: MeHg was 1:1.4. Comparisons between hair mercury levels and fish intake levels of high and low fish consumers are shown in Figure 1. Fish intakes calculated from both FFQs and FD were positively correlated with tHg, iHg and MeHg (all p < 0.05). However, in general, better correlations were found between FD data and hair mercury (Spearman’s rho for tHg = 0.416; iHg = 0.352; MeHg = 0.448) than between FFQ data and hair mercury (Spearman’s rho for tHg = 0.308; iHg = 0.360; MeHg = 0.262).

Conclusions Fish intake data obtained from both FFQs and FDs were positively associated with hair mercury levels. FFQ data is an acceptable and easy-to-use tool for mercury intake assessment in children. Further studies are required to confirm these associations.