Scoping paper on the potential risks of chemicals (other than caffeine) found in green and black tea in the maternal diet

Summary

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This is a paper for discussion. It does not reflect the views of the Committee and should not be cited.

116. The purpose of this scoping paper was to provide an overview of chemical compounds (excluding caffeine) found in green and black tea (*C. sinensis*), that may pose health risks to women during pregnancy, childbirth, and up to 24 months postpartum.

117. The UK imports ~110,240 tonnes of black tea and ~3,460 tonnes of green tea annually. The main importers are Kenya and Germany. Import restrictions apply to Chinese tea due to pesticide residue compliance (under HRFNAO).

118. The chemical groups reviewed included chemicals involved in crop management (pesticides), heavy metals (arsenic, cadmium, chromium, lead, mercury), naturally occurring toxins (alkaloids and mycotoxins), plant components (polyphenols and trace elements) and process contaminants

(acrylamide, furans and polyaromatic hydrocarbons).

119. UK/MRLs apply to pesticides and recent surveys show compliance. There is no significant association between dietary intake and adverse birth outcomes in based on the available information. Lead and mercury exposures from tea are low and not considered a major risk, cadmium exposure from tea is minimal compared to other foods. Some studies suggest that higher maternal blood metal levels are observed in pregnant women who are tea drinkers, but the levels are within normal ranges. The presence of alkaloids is rare and likely to result from contamination. There was limited data available that specifically correlated the risk to health from the maternal diet based on consumption of tea that was contaminated with mycotoxins. The concentration of process contaminants that are formed during drying stages (acrylamide, furans, PAHs) in tea are generally low.

120. The key observations were:

- Most compounds occur at low levels; regulatory limits and monitoring exist for many.
- Some evidence suggests tea drinking during pregnancy may increase risk of anaemia (due to polyphenols) and possibly neural tube defects (linked to folate metabolism).
- Fluoride and manganese intake from tea can be elevated, especially for high consumers.
- Data gaps remain for maternal-specific risk assessments for several compounds.