ESTIMATION OF FLUORIDE INTAKE BY IRANIAN POWDERED MILK-FED INFANTS

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SUMMARY: Fluoride (F) intake by formula-fed infants is highly variable, depending primarily on the F content of the water used to dilute the concentrated liquid or powdered infant formula products. The aim of the present study was to estimate the F intake by Iranian powdered milk-fed infants by taking account of the F content in the drinking water in different areas of Iran and the F content in the commonly used brands of powdered milk. The results showed that many infants in some regions of Iran were exposed to higher F intakes from powdered milk formula than those of other regions with a lower drinking water F level. Only in Bushehr province was the mean provincial F level in the groundwater resources higher than the WHO guideline value of 1.5 mg/L (1.86±0.86 mg/L) and the mean F intake of the powdered milk-fed infants in this province was 40–50 µg/kg body weight (bw)/day, less than the EPA's reference dose (RfD) of 60 µg/kg bw/day. The F intake of powdered milk-fed infants in the other areas in Iran which were studied ranged from 20–40 µg/kg bw/day.

Keywords: Fluoride intake by infants; Iran; Powdered milk; Powdered milk-fed infants; Reference dose (RfD).

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