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Estimated dietary intake and risk assessment of nitrate and nitrite from meat consumed in the Fiji islands

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In order to assess the risk posed by meat consumption to the Fiji and Pacific populace, the present study quantified nitrate and nitrite in commonly consumed fresh as well as processed meat samples. Twelve (12) commercially available meat products with a total of 210 fresh as well as processed meat samples were analysed for nitrate and nitrite by an optimized RP-HPLC technique using an ACE C18 (5 µm diameter) chromatographic column and isocratic elution using 0.01 M n-octylamine in 20% methanol at pH of 6.6. The nitrate content in the meat samples studied ranged from 0.00–123.71 mg kg-1 whereas the nitrite content ranged from 0.00–164.18 mg kg-1. The study shows that the nitrate and nitrite content of meat samples in Fiji descends below the maximum level proposed by the European Union legislation but above the limit set by Food Standards Australia and New Zealand (FSANZ). Estimated dietary intake (EDI) of nitrate and nitrite was calculated from a 24 hour diet recall (24-Hr DR) study as well as from Fiji's food balance sheets (FBS).

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