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The case study and the law regulations of opiate concentrations in the seeds and urine after ingestion of poppy seeds from free market vs. rare genotypes grown under temperate climate

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It is confirmed that notable variations in opiate alkaloid concentrations may arise due to variations in the climate, soil composition, seed genes, the year of harvest, and the variety of poppy cultivated. In some countries, like in Slovenia, traditional foods exist like Prekmurskagibanica cake, which contains approximately 25% poppy seed; and makovapotica, which can contain more than 50% of poppy seed. Because of opiates, four Slovenian rare populations and 5 varieties were analysed (content of morphine in µg per g of poppy seed) and used for consumption 10gv.s. 20g of seeds per person by the 33 students (3 repetitions plus control without poppy seed consumption). Morphine (µg per l) was calculated like as a ratio between content of morphine and U-creatinin (mmol/l). The results show great variation from 4.9 to 28.3 µg of morphine per g seeds in varieties produced in Slovenian and Czech temperate climate, to 44.4 and 46.0 µg of morphine per g seed in Turkish varieties, and from 133.7 µg in an unknown sample to 466.6 µg of morphine per g seed produced in Hungary. These values highly correlate with the content of morphine and codeine in the urine. On this basis, we discuss the limitations of poppy seed consumption regarding sportists, drivers and different ages (or body mass) of persons and which kind of restrictions for opiates in the poppy seeds are actually according to the international laws.

Biography

Franc Bavec is currently working as a faculty member at University of Maribor, Slovenia.

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Notes:

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