

## CO-OCCURRENCE OF MYCOTOXINS IN FOOD PRODUCTS CONSUMED BY LACTATING WOMEN FROM PIRASSUNUNGA/SP

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**Abstract:** Mycotoxins are secondary metabolites produced by fungi that can develop naturally in food, leading to toxic effects in humans and several animal species. Lactating women require especial attention as a risk group because, when they ingest food containing mycotoxins, their original or metabolized forms can be transferred into the breast milk. This study evaluated the co-occurrence of aflatoxins (AFB<sub>1</sub>, AFB<sub>2</sub>, AFG<sub>1</sub>, AFG<sub>2</sub>), fumonisins (FB<sub>1</sub>, FB<sub>2</sub>), ochratoxins A (OTA), zearalenone (ZEN), deoxynivalenol (DON), HT-2 and T-2 toxins in food products consumed by 23 lactating mothers registered in a public medical center from Pirassununga/SP. The lactating women provided samples from foods available at their homes between April-May/2018, totaling 59 samples. The mycotoxins were determined in food samples by liquid chromatography-tandem mass spectrometry (LC-MS/MS). The aflatoxins were detected in 28% of all samples analyzed, at mean concentrations varying from 9.2 to 62.7 µg/kg. ZEN was detected in 13 samples (22%) of rice, beans, wheat, corn meal, pasta, bread, cake and crackers, with levels higher than the maximum tolerable limit (MTL) in Brazil in rice, cake and bread (mean levels: 767.1 to 973.9 µg/kg). Fumonisins also presented concentrations above the MTL in 6 samples (10%) of corn meal, hominy and corn flakes, at mean concentrations ranging from 1306.0 to 23132.9 µg/kg. OTA was detected in pasta and bread (n=2) at mean levels of 478.5 and 203.7 µg/kg, respectively. Fifteen samples (25%) contained 2 or more types of mycotoxins. DON, T-2 and HT-2 toxins were not detected in any sample. The results indicate a potential high exposure of lactating women to multiple mycotoxins in the diet, especially to aflatoxins, ZEN and fumonisins since several samples (57%) had levels above their respective MTLs. The co-occurrence of mycotoxins in foods consumed by lactating women warrants concern about the possible transference of residual mycotoxins into the breast milk.

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