

Assessment of Health Risks Involved in the Consumption of Aflatoxins from Peanuts and Roasted Cashew Nuts

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ABSTRACT

Peanuts and cashew nuts are commonly consumed snacks for their delicacy. Fungal organisms invade pods of the nuts while still on the tree or root tuber or during harvesting and storage. These fungi release toxic substances called aflatoxins. Aflatoxins are mycotoxins, which are highly hepatotoxic, mutagenic and teratogenic and affect public health. This study is aimed at assessing the health risks involved in the ingestion of the aflatoxins present in these nuts. Hundred packaged samples of peanut and cashew nut (50 packets each) were bought from five different markets in Enugu metropolis between June and July 2019. The infected seeds were sorted and cultured onto Sabouraud dextrose agar and incubated at 25°C for 7 days, other biochemical tests were done using the standard procedure. Twenty Albino rats were fed with these nuts for 1 month. The fungal aflatoxin contamination and the histopathology assessment of the liver tissue were done. Statistical analysis was done using SPSS version 25. Six fungal species were isolated from the nuts with *Aspergillus flavus* and *Aspergillus parasiticus* having the highest percentage occurrence of 45% and 36% respectively and the values were higher in peanuts. The aflatoxin concentration ranged from 26-32.48 ng/kg and although it was not statistically significant, the animals developed mild aflatoxicosis and the aflatoxigenic activity of the fungal isolates posed health risk to the laboratory animals and can do same to human after a prolong period of consumption, it is therefore advised that diseased nuts should not be consumed so as to prevent food borne diseases.

Keywords: Aflatoxins, Peanuts, Cashew-nuts, Health risks

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