

عنوان مقاله:

Determination of Alpha Particles and Heavy Metals Contamination in Meat Samples in Najaf, Iraq

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خلاصه مقاله:

Introduction: The aim of the present study was to determine the levels of alpha particles and heavy metals contamination in the meat products consumed in Najaf, Iraq. Moreover, this study was also targeted toward comparing the results with those in the literature and making appropriate conclusion and recommendations. **Material and Methods:** This study determined the track of alpha particles and heavy metals pollution in meat samples collected from the open markets in Najaf, Iraq. These meat samples included cow, sheep (lamb), chicken, and fish. The alpha particles contamination was determined using nuclear track detectors (CR-۳۹). The heavy metal concentrations were analyzed using atomic-absorption spectroscopy. **Results:** The highest alpha particles emission rate was 0.0204 mBq cm^{-2} in Ascary sheep (lamb). On the other hand, the lowest rate of alpha particles (0.00008 mBq cm^{-2}) was associated with Kufa fish. Gadeer sheep and Kufa chicken had the highest and lowest concentrations of cadmium, which were obtained as 0.2600 and 0.0020 ppm, respectively. Regarding the lead concentration, the highest and lowest concentrations were found in Kufa cow (0.8936 ppm) and Kufa chicken (0.0542 ppm), respectively. **Conclusion:** This study indicated that alpha particle and heavy metal contamination in the meat samples were within permissible limits. Therefore, the consumption of the selected meat products did not pose any significant hazard to the public health in Najaf. Moreover, the findings suggested that there would be no increase in the current rates of not only particle contamination, but also heavy metal pollution, compared to those of international studies.

کلمات کلیدی:

Alpha Particles, Atomic Absorption Spectrometry, Environmental Pollution Meat

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