

Qualitative Analysis of Sulfite Contamination in Food Sold at a Local Market in Phnom Penh, Cambodia

Abstract

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Abstract

Introduction: Food provides essential nutrients for human health, but certain additives such as sulfites can pose risks when consumed in excess. Sulfites are used to preserve color and prevent microbial growth, yet high levels may cause respiratory distress, skin reactions, or even anaphylaxis. This study examined the presence of sulfite residues in foods sold at a local market, Phnom Penh, Cambodia.

Methods: Twenty food samples were randomly selected from different stalls at a local market in Phnom Penh, including meatball, dried food, sliced chopped vegetable, traditional Khmer dessert, tofu skin, hot dog, pork pate, water for soaking seafood, pig blood curd, and sausages. Samples were analyzed using lead acetate paper, with sulfite detection indicated by black or brown discoloration following reaction with hydrogen sulfite released from the samples. This method provided qualitative detection of sulfite presence or absence and did not quantify sulfite concentration.

Results: Sulfites were present in 25% of the tested samples, including sliced chopped vegetables, bean sprouts, dried fruits, seafood soaking water, and sliced chopped lemongrass.

Conclusion: The qualitative detection of sulfites in selected local food samples suggests the need for further quantitative testing to determine sulfite concentrations and assess whether levels exceed acceptable food safety limits.

Ethics statement: The study was approved by University of Puthisastra Research Committee (No. 26IR24).

Conflicts of interest: There is no conflicts of interest in this study.

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