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Is formalin present in the fish you eat?

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Fish is one of Sri Lanka's most popular animal protein sources. Formalin is said to be commonly used by fish vendors to prevent fish getting spoiled. It extends the shelf life of the fish, stiffens it, and keeps it looking fresh for longer. Many traders, according to reported cases around the world, may dip the entire fish in formalin, inject formalin into the fish's body cavity, or spread formalin-laced water, which is hazardous to public health.

Formalin contains around 37% of formaldehyde, a toxic substance that can kill bacteria and viruses as well as harm human cells. Formaldehyde may also form naturally inside the fish as a result of various metabolic activities, though at low levels. Inadequate freezing facilities and infrastructure may persuade the fish traders to conduct such malpractices. However, there is no sufficient evidence to see if any local fish are being sprayed with formalin to prevent the spoilage.

The current study was carried out to conduct a quantitative analysis of formaldehyde content in selected fish species, collected from three different harbours in Sri Lanka. Balaya (Skipjack tuna) and Linna (Indian scad) fish were chosen because they are commonly consumed by the citizens of this island nation. Representative samples were selected from Mirissa, Kudawella, and Tangalle harbours for the study. When collecting samples, multi-day boats, which typically store fish for 60 days at a stretch were considered as the long storage period may force the fish traders to practice adulteration using formalin. In this study the collected samples were graded based on the harvesting time periods.

All samples were tested as soon as they arrived at the laboratory, and results were obtained in triplicate for accuracy. The results were compared to a control sample from single-day boats (which have one-day fishing duration).

According to the results of the tests, all the samples contained higher levels of formaldehyde than naturally occurring amounts. Although the levels tested were high, they were below the formaldehyde maximum allowable limit of 5 mg/kg (Food Act, 1980). Hence, based on the results obtained, we can assure that a safer level of formaldehyde still exists in the fish and may not be hazardous when considering the amount of fish consumed by the average local individual.

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