

Food Color Toxicity in Forensic Science: Evaluating Safety Concerns [†]

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[†] Presented at 3rd National Conference on Environmental Toxicology: Impact on Human Health (Env-Tox 2024)

Received: 16.02.2024; Accepted: 20.03.2024; Published: 28.03.2024

Abstract: Food colors can be any pigment or dye that gives color to the food when it is added to it. The application of food colors by the food industry started way back in the 19th century, when the food revolution happened, which led to the manufacturing of processed goods. The intention of using color is to improve the visual appearance of food in front of the customer to make them attracted to the food. Since then, the application of food colors has increased in most foods day by day. The food colorants are mainly divided into two parts: natural colorants such as anthocyanin, carotenoids, chlorophyll, and betalains. Secondly, synthetic colorants include tartrazine, quinoline yellow, sunset yellow, erythrosine, carmoisine, ponceau 4R, allure red, brilliant blue, brown HT, and indigo carmine. The increased usage of these types of food colorants can cause potential toxicity that includes carcinogenic, genotoxic, cytotoxic, hyperactivity, hormonal imbalance, and organ failure (liver, kidney) in the human body, which is not known by the people. This review paper discusses different food colors and their toxic effects on the human body. It also evaluates safety concerns.

Keywords: food color; food additive; natural colorants; synthetic colorants; toxic effects.

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Funding

None.

Acknowledgments

None.

Conflicts of Interest

The authors declare no conflict of interest.