6 CONCLUSION

The availability and frequency in usage of synthetic food colourants in local market were checked, along with the consumers who purchase them. The widely used colours were considered and their equivalent colours from natural forest sources (i.e., not highly recognized) were studied for their shelf-life, microbial property, physicochemical characteristics, toxicity (primary and *in vivo*), thermogravitivity and photosensitivity, along with the nutrients present in them were analysed. The analysed colours were incorporated into various recipes of sweets, snacks, preservatives and organoleptically evaluated for their rate of acceptability with hedonic scale rating. In consideration with the limitations for synthetic food colourants from FSSAI, a device was developed and trained to detect the level of toxicity in widely consumed foods. Thus, this study focus on the enhancement of food safety and quality, which is becoming a global looming crisis that preys on human health.

LIMITATIONS OF THE STUDY

- To incorporate the natural food colourants in frozen foods like ice cream, desserts and confectionaries also in packaging materials.
- To reach out to a wider target groups of food vendors from other food outlets.
- To provide with sufficient number of wistar albino rats for control group.

RECOMMENDATIONS OF THE STUDY

- Future study to be conducted on seasonal plants as colourants and to find ways to store them in proper condition.
- To incorporate the natural food colourants in industrial products in various forms like edible cutlery, edible packaging materials, edible ink, etc.
- To develop various forms of natural food colourants, not only powders, but also in liquid forms like emulsions, dessert toppings and syrups.
- To commercialize the food colour sensor that can be trained to detect toxicity in semi solid and liquid foods.