

MONITORING CHILDREN'S MENU ITEMS IN POPULAR RESTAURANT CHAINS

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Introduction

Increased consumption of food away from home combined with a focus on sodium reduction and increased prevalence of pediatric overweight and obesity has led the USDA Nutrient Data Laboratory (NDL) to monitor popular restaurant foods. This is part of a larger effort to include nutrient profiles of restaurant foods in the USDA National Nutrient Database for Standard Reference (SR)¹. NDL has been monitoring nutrient profiles, including sodium, for selected restaurant food items sampled under the USDA National Food and Nutrient Analysis Program (NFNAP) for use in studies of dietary patterns of children². Samples of high consumption children's menu items (macaroni and cheese and chicken tenders) at two popular national family-style restaurant chains were identified and obtained for analysis.

Methods

Sampling: In December 2008 and again in July 2012, sample units of chicken tenders and macaroni and cheese from the children's menu were collected from two popular nationwide family-style restaurant chains in 12 statistically selected locations in the 48 conterminous states. The family-style restaurant chains were identified using a multistage, stratified sampling plan developed for NFNAP².

Analyses: The sample units were randomly grouped into 6 subgroups of 2 each and composited according to previously developed protocols for NFNAP (n=6). Values for proximates, vitamins, minerals and fatty acids were determined by USDA-approved commercial laboratories using validated AOAC methodology.

Quality Control: Analytical quality assurance was monitored through the use of appropriate standard reference materials (SRM) and in-house control materials.

Statistics: Nutrient data were statistically evaluated using Mann Whitney U Test (p<0.05) to compare the median from the same food at the same restaurant in different years.



Figure 1a. Total Fat in Chicken Fingers 2008 and 2012

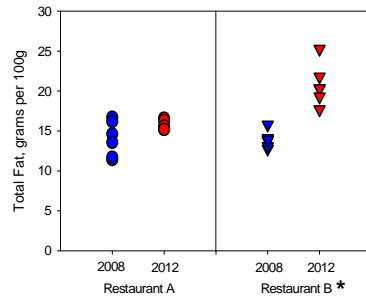


Figure 2a. Total Fat in Macaroni and Cheese 2008 and 2012

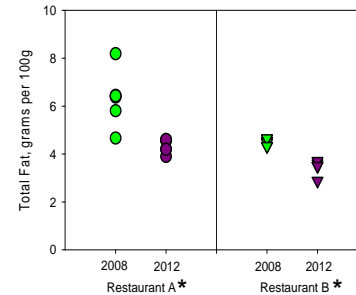


Figure 1b. Saturated Fat in Chicken Fingers from 2008 and 2012

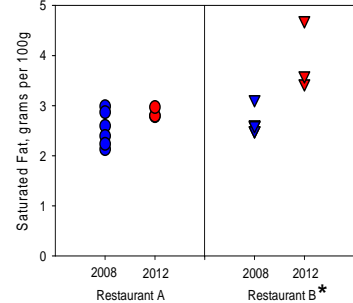


Figure 2b. Saturated Fat in Macaroni and Cheese from 2008 and 2012

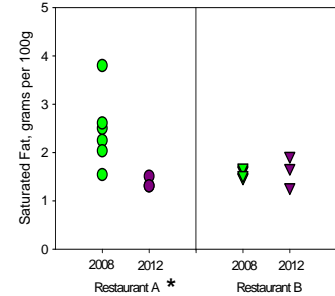


Figure 1c. Sodium in Chicken Fingers from 2008 and 2012

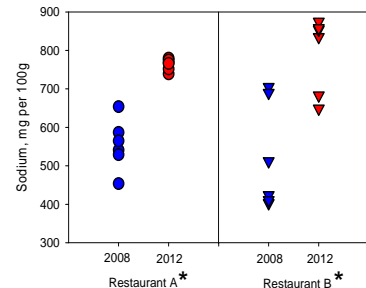
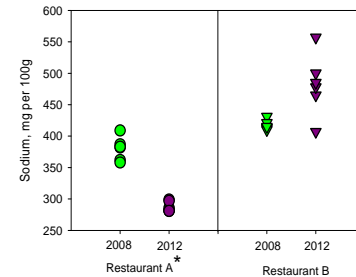


Figure 2c. Sodium in Macaroni and Cheese 2008 and 2012



* Indicates significantly different (p<0.05)

Results

Chicken Tenders- 2008 compared to 2012

Summary- significant increases in total fat, saturated fat and sodium in restaurant B; significant increase in sodium in restaurant A.

Total Fat (Fig. 1a)

- Restaurant A- no significant change (14.1 to 15.6g/100g, p<0.234)
- Restaurant B- significant increase (13.8 to 20.3 g/100g, p<0.017)

Saturated Fat (Fig. 1b)

- Restaurant A- no significant change (2.5 to 2.8 g/100g, p<0.366)
- Restaurant B- significant increase (2.6 to 3.6g/100g, p<0.028)

Sodium (Fig. 1c)

- Restaurant A- significant increase (553 to 767mg/100g, p<0.017)
- Restaurant B- significant increase (468 to 845mg/100g, p<0.031)

Macaroni and Cheese- 2008 compared to 2012

Summary- significant decreases in total fat, saturated fat and sodium in restaurant A; significant decrease in total fat in restaurant B.

Total Fat (Fig. 2a)

- Restaurant A- significant decrease (6.4 to 4.4g/100g, p<0.004)
- Restaurant B- significant decrease (4.5 to 3.5g/100g, p<0.008)

Saturated Fat (Fig. 2b)

- Restaurant A- significant decrease (2.4 to 1.3g/100g, p<0.028)
- Restaurant B- no significant change (1.6 to 1.7g/100g, p<0.699)

Sodium (Fig. 2c)

- Restaurant A- significant decrease (383 to 284mg/100g, p<0.005)
- Restaurant B- no significant change (414 to 482mg/100g, p<0.065)

Conclusion

Despite efforts to make children's menu items healthier by some restaurants, results have varied showing some significant increases and decreases. More research is needed to track the changes in children's menu items in restaurants. The results of this research provide current, accurate, nationally representative data for children's menu items in popular restaurant chains. These highly variable data will be included in the USDA National Nutrient Database SR 26 which serves as the source for nutrient analysis of dietary monitoring surveys¹.

References

1. Nutrient Data Laboratory (NDL), Agricultural Research Service, US Department of Agriculture. 2012. USDA National Nutrient Database for Standard Reference, Release No.25. NDL Web site: http://www.ars.usda.gov/nutrient_data.
2. Haytowitz, D.B., Pehrsson, P.R., and Holden, J.M. (2008) *The National Food and Nutrient Analysis Program: A Decade of Progress*. Journal of Food Composition and Analysis 21(Supp. 1):S94-S102.