How Accurate are the Nutrients Available on Restaurant Websites?

Melissa Nickle, MPH and Pamela Pehrsson, PhD
USDA, Agricultural Research Service, Human Nutrition Research Center, Nutrient Data Laboratory, Beltsville, MD

Objective
The objective of this study is to compare analytical nutrient data of popular fast foods to stated nutrient data available on company’s websites at the same time.

Introduction
As part of the Affordable Health Care Act, Congress passed a national law requiring restaurants with 20 or more outlets to post calorie information on menus and menu boards allowing consumers to make informed decisions when eating away from home. Accuracy of restaurant nutrient information will be a factor on the impact of public health from this national law.

Methods
Sampling: Twelve restaurant locations for each of the four leading nationwide restaurant chains by sales were statistically indentified using a multistage, stratified sampling plan developed for the National Food and Nutrient Analysis Program (NFFNAP). Analyses: In 2012-13, sample units of each food item were randomly grouped into 6 subgroups of 2 each and composited to create a final analytical sample. Sampling of each item was carried out according to previously developed protocols for NFFNAP. Values for proximates, minerals and fatty acids were determined by USDA-approved commercial laboratories using validated AOAC methodology. Samples were weighed to obtain serving size from all 12 restaurant locations for each food item.

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

Comparison: Nutrients were compared on 100g basis; serving size information was also evaluated.

Results
• Overall, serving sizes and nutrients were similar when comparing analytical samples to company’s website.
• Differences in calories ranged from -2 kcal/100g (nachos supreme) to +42 kcal/100g (croissant breakfast sandwich), with 66% of samples having ≤5% difference (Figure 1 and Figure 2).
• Total fat was underestimated in 92% of samples (+0.3 g/100g to +4.0 g/100g), whereas French fries were overestimated (-0.7 g/100g) (Figure 1 and Figure 2).
• Sodium had a broader range of -111 mg/100g (cheese nachos) to +64 mg/100g (chicken sandwich) (Figure 1 and Figure 2).
• Protein was identical in 25% of the samples and underestimated in the remaining samples (range +0.1 g/100g to +2.4 g/100g).

Serving sizes ranged from -19 g (cheese nachos) to +31 g (nachos supreme), as shown in Table 1.

Table 1. Serving Size (g)

<table>
<thead>
<tr>
<th>Food Item</th>
<th>Analytical *</th>
<th>Label</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stuffed Crust Cheese Pizza</td>
<td>117</td>
<td>132</td>
<td>-15</td>
</tr>
<tr>
<td>Croissant Breakfast Sandwich</td>
<td>171</td>
<td>169</td>
<td>+2</td>
</tr>
<tr>
<td>Nachos Supreme</td>
<td>222</td>
<td>191</td>
<td>+31</td>
</tr>
<tr>
<td>Nachos with Cheese</td>
<td>80</td>
<td>99</td>
<td>-19</td>
</tr>
<tr>
<td>Burrito Supreme with Beef</td>
<td>241</td>
<td>248</td>
<td>-7</td>
</tr>
<tr>
<td>Hamburger</td>
<td>95</td>
<td>100</td>
<td>-5</td>
</tr>
<tr>
<td>Double Cheeseburger</td>
<td>155</td>
<td>165</td>
<td>-10</td>
</tr>
<tr>
<td>Chicken nuggets</td>
<td>95</td>
<td>97</td>
<td>-2</td>
</tr>
<tr>
<td>English Muffin Breakfast Sandwich</td>
<td>126</td>
<td>139</td>
<td>-13</td>
</tr>
<tr>
<td>Crispy Chicken Sandwich</td>
<td>131</td>
<td>143</td>
<td>-12</td>
</tr>
<tr>
<td>Breaded Fish Sandwich</td>
<td>134</td>
<td>143</td>
<td>-9</td>
</tr>
<tr>
<td>French fries</td>
<td>117</td>
<td>117</td>
<td>0</td>
</tr>
</tbody>
</table>

*mean (n=12)

Conclusion
Website values for leading fast food restaurants provide a reasonable estimate of serving size and nutrient values for menu items. These analyses provide current, accurate, nationally representative data for popular fast food items and are included in the USDA National Nutrient Database for Standard Reference 25 as part of an effort to monitor changes in nutrient profiles for popular foods.

References
Objective
The objective of this study is to compare analytical nutrient data of popular fast foods to stated nutrient data available on company’s websites at the same time.

Introduction
As part of the Affordable Health Care Act, Congress passed a national law requiring restaurants with 20 or more outlets to post calorie information on menus and menu boards allowing consumers to make informed decisions when eating away from home. Accuracy of restaurant nutrient information will be a factor on the impact of public health from this national law. To assess the accuracy of the nutrients available through restaurants USDA’s Nutrient Data Laboratory (NDL) conducted a nationwide sampling of 12 popular foods for analysis from top fast food restaurants in 2012 and 2013; nutrient information for the same foods was also collected from the restaurants website. Foods sampled included stuffed crust pizza, breakfast sandwiches, French fries, chicken nuggets, burgers, beef burrito and nachos.

Methods
**Sampling:** Twelve restaurant locations for each of the four leading nationwide restaurant chains by sales were statistically indentified using a multistage, stratified sampling plan developed for the National Food and Nutrient Analysis Program (NFNAP)¹.

**Analyses:** In 2012-13, sample units of each food item were randomly grouped into 6 subgroups of 2 each and composited to create a final analytical sample and composited according to previously developed protocols for NFNAP. Values for proximates, minerals and fatty acids were determined by USDA-approved commercial laboratories using validated AOAC methodology. Samples were weighed to obtain serving size information from all 12 restaurant locations for each food item.

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

**Comparison:** Nutrients were compared on 100g basis; serving size information was also evaluated.
Results

• Overall, serving sizes and nutrients were similar when comparing analytical samples to company’s website.

• Differences in calories ranged from -2 kcal/100g (nachos supreme) to +42 kcal/100g (croissant breakfast sandwich), with 66% of samples having ≤5% difference (Figure 1 and Figure 2).

• Total fat was underestimated in 92% of samples (+0.3 g/100g to +4.0 g/100g), whereas French fries were overestimated (-0.7 g/100g) (Figure 1 and Figure 2).

• Sodium had a broader range of -111 mg/100g (cheese nachos) to +64 mg/100g (chicken sandwich) (Figure 1 and Figure 2).

• Protein was identical in 25% of the samples and underestimated in the remaining samples (range +0.1 g/100g to +2.4 g/100g).

• Serving sizes ranged from -19g (cheese nachos) to +31g (nachos supreme), as shown in Table 1.

Conclusion

Website values for leading fast food restaurants provide a reasonable estimate of serving size and nutrient values for menu items. These analyses provide current, accurate, nationally representative data for popular fast food items and are included in the USDA National Nutrient Database for Standard Reference 25 as part of an effort to monitor changes in nutrient profiles for popular foods.
References