



Food Surveys Research Group  
Dietary Data Brief No. 63  
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# Consumption of Mexican Food by U.S. Children and Adolescents

What We Eat in America, NHANES 2017 – March 2020

Rhonda S. Sebastian, MA; Sara B. Crawford, PhD;

Joseph D. Goldman, MA; and Alanna J. Moshfegh, MS, RDN

## Highlights

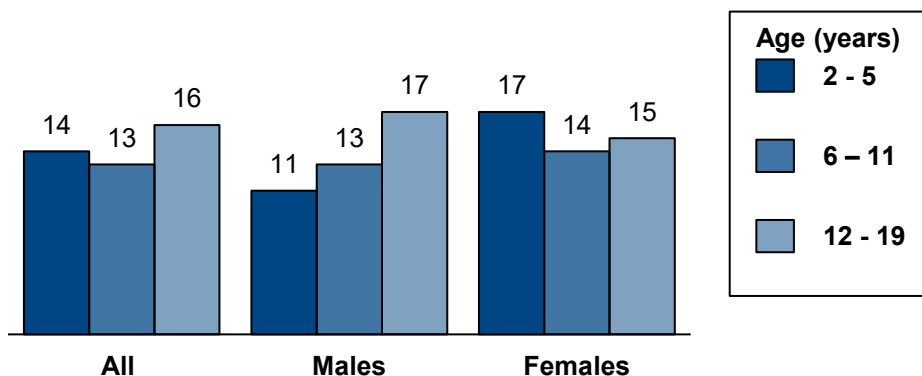
- ▶ On any given day, 15% of children 2-19 years consume at least one Mexican food, with no differences by gender or age.
- ▶ Hispanic children are more likely to consume a Mexican food than are children in other race/ethnic groups.
- ▶ Overall, over half (54%) of Mexican food/Mexican food ingredients are from grocery stores.
- ▶ Tacos account for 36% of Mexican food reports, followed by burritos and quesadillas at 19% each.
- ▶ On average, Mexican food contributes 600 kilocalories to daily energy intakes of children who consume it.
- ▶ For most nutrients studied, intake was similar between consumers and non-consumers of Mexican food on a 1,000 kilocalorie basis.
- ▶ Mexican food provides 30% of daily energy and 35-40% of protein, total fat, saturated fat, cholesterol, dietary fiber, and sodium to total intakes of children who consume it.

Tacos, burritos, and other Mexican foods account for an ever-increasing segment of the food market, with most of the growth taking place in North America (1; see definition of “Mexican foods” on page 8). However, despite their popularity, there is a lack of publicly available information about consumption of these foods. The purpose of this report is to describe intake of select highly reported Mexican foods by U.S. children 2-11 years and adolescents 12 – 19 years of age (hereafter termed “children”). The prevalence of consumption by selected demographics, the types of foods that are consumed, and their contributions to energy and nutrient intake will be presented. This analysis is based on one day of dietary intake data from What We Eat in America (WWEIA), National Health and Nutrition Examination Survey (NHANES) 2017 – March 2020. A complementary report (Dietary Data Brief No. 64) describes Mexican food consumption by U.S. adults 20 years of age and older.

## What percentage of children consume Mexican food, and does it differ by gender and age?

Overall, 15% of U.S. children (14% of males and 15% of females), consume one or more Mexican foods on any given day. There are no statistically significant differences by age group among all children or within gender (Figure 1).

**Figure 1. Prevalence<sup>1</sup> (%) of Mexican food<sup>2</sup> consumption among children 2-19 years, by gender and age, WWEIA, NHANES 2017 – March 2020**



<sup>1</sup>For all children and within gender, percentage estimates do not differ by age ( $p > 0.001$ ) based on a two-tailed t-test. Likewise, no statistically significant linear trends in prevalence for all and within gender were observed based on regression analysis.

<sup>2</sup>See definition of “Mexican food” on page 8.

SOURCE: WWEIA, NHANES 2017 – March 2020, day 1, children 2 - 19 years of age.



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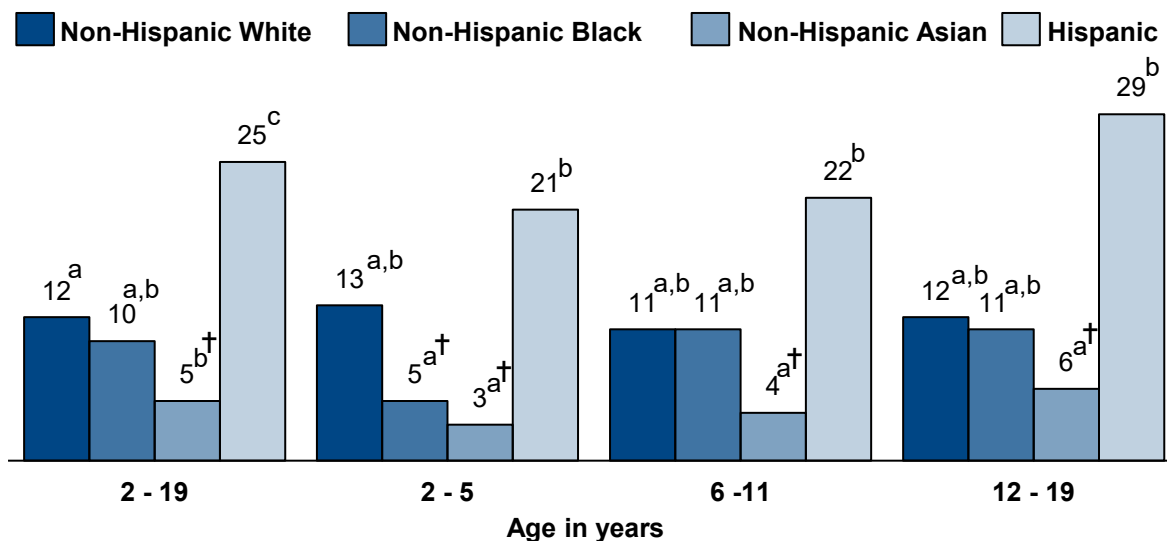
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## Does the prevalence of Mexican food consumption differ by race/ethnicity or family income?

Hispanic children account for 42% of Mexican food consumers 2-19 years (*data not shown*). It follows that the prevalence of Mexican food consumption is higher among this group relative to non-Hispanic (NH) White, NH Black, and NH Asian children. As shown in Figure 2, one in four children of Hispanic origin consume at least one Mexican food on the intake day overall, compared to less than one in eight in all other race/ethnic groups.

There are no significant differences in prevalence of Mexican food consumption by income (Figure 3).

**Figure 2. Prevalence (%) of Mexican food<sup>1</sup> consumption among children age 2 - 19 years, by age group and race/ethnicity, WWEIA, NHANES 2017 – March 2020**



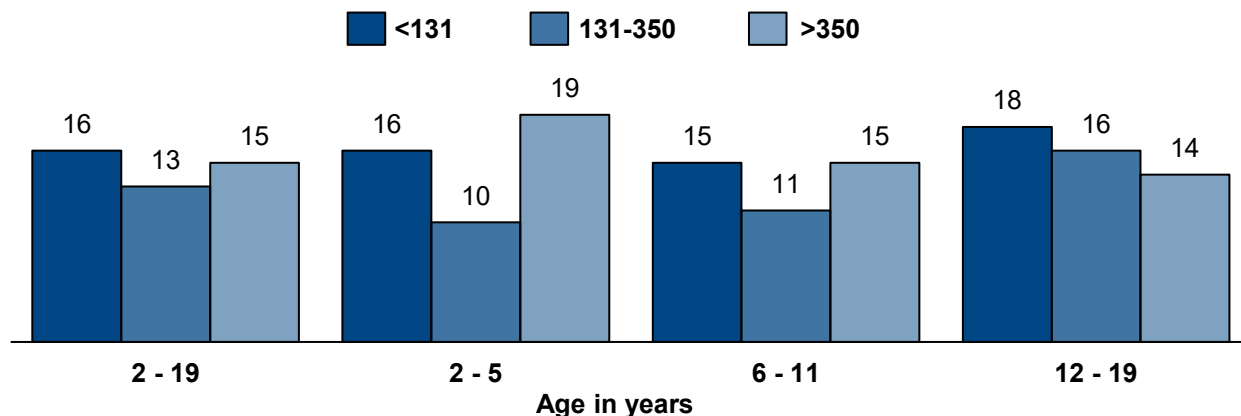
<sup>1</sup>See definition of “Mexican food” on page 8.

<sup>a,b,c</sup>For all children and within age group, percentage estimates with different superscripts differ by race/ethnicity ( $p < 0.001$ ) based on a two-tailed t-test.

<sup>†</sup>Estimate is less precise than others presented due to small sample size.

SOURCE: WWEIA, NHANES 2017 – March 2020, day 1, children 2 – 19 years of age.

**Figure 3. Prevalence (%)<sup>1</sup> of Mexican food<sup>2</sup> consumption among children age 2 - 19 years, by age group and family income as % of poverty level<sup>3</sup>, WWEIA, NHANES 2017- March 2020**



<sup>1</sup>For all children and within age group, percentage estimates do not differ by income ( $p > 0.001$ ) based on a two-tailed t-test.

<sup>2</sup>See definition of “Mexican food” on page 8.

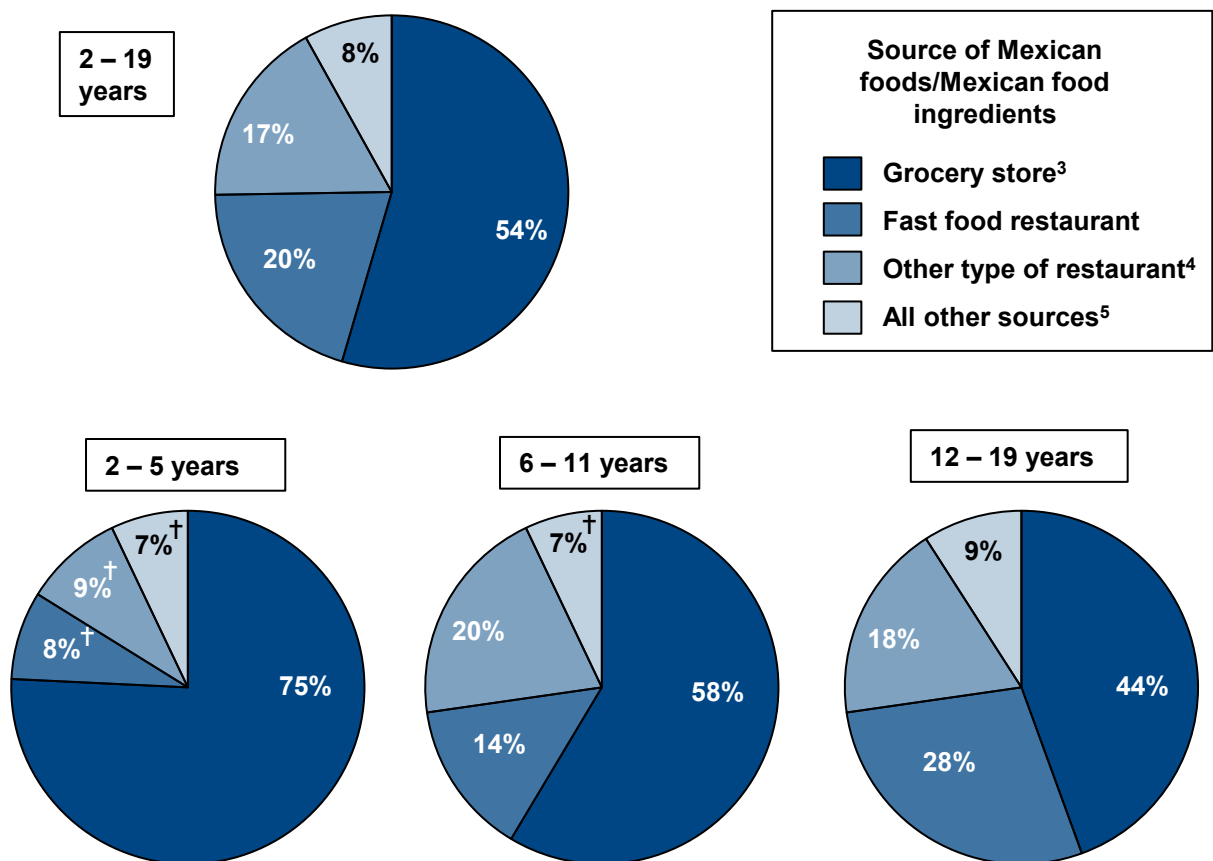
<sup>3</sup>Ratio of family income to the federal poverty guidelines expressed as a percentage. See definition of “family income” on page 8.

SOURCE: WWEIA, NHANES 2017 – March 2020, day 1, children 2 – 19 years of age.

### From what sources are Mexican food and Mexican food ingredients obtained?

As shown in Figure 4, grocery stores account for the majority of Mexican food/Mexican food ingredients among children overall. Items from the grocery include premade foods, such as frozen or store made taquitos, as well as basic ingredients to prepare these foods, such as tortillas, ground beef, and cheese. On the other hand, the percentage of Mexican food obtained from restaurants (fast food and other types together) among children 12-19 years is nearly three times that percentage among those 2-5 years. In fact, there is a positive linear trend in Mexican foods obtained from restaurants by age ( $p < 0.001$ ).

Figure 4. Source (%)<sup>1</sup> of Mexican food<sup>2</sup> among children age 2 - 19 years, WWEIA, NHANES 2017- March 2020



<sup>1</sup>Percentages may not add to 100 due to rounding.

<sup>2</sup>See definition of "Mexican food" on page 8.

<sup>3</sup>Includes supermarkets, warehouse clubs, specialty stores, and ethnic food stores.

<sup>4</sup>Includes restaurant with waiter/waitress service; cafeteria (including in a K-12 school); and restaurant, not further specified.

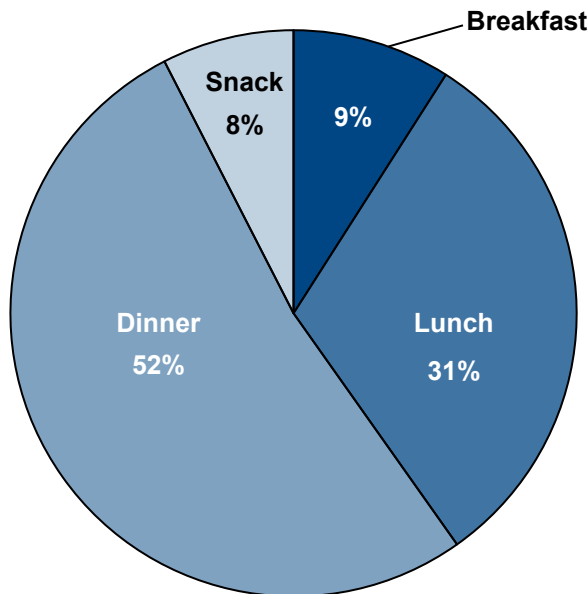
<sup>5</sup>Includes sources not specifically shown, e.g., someone else/gift and convenience store.

<sup>†</sup>Estimate is less precise than others presented due to small sample size.

SOURCE: WWEIA, NHANES 2017 – March 2020, day 1, children 2 – 19 years of age.

### At what eating occasions are Mexican food consumed?

Figure 5. Eating occasion<sup>1</sup> (%) at which Mexican food<sup>2</sup> are consumed among children age 2 -19 years, WWEIA, NHANES 2017- March 2020



Over half of all Mexican food consumed by children are reported at dinner, and nearly one-third are reported at lunch (Figure 5).

These findings are consistent for all demographic groups. Regardless of age or race/ethnicity, over 70% of Mexican food are consumed at dinner or lunch (*data not shown*).

Among all children, only 40% of Mexican food reported at lunch is consumed at home. However, the corresponding percentages for breakfast, dinner, and snack are 60%, 78%, and 71%, respectively (*data not shown*).

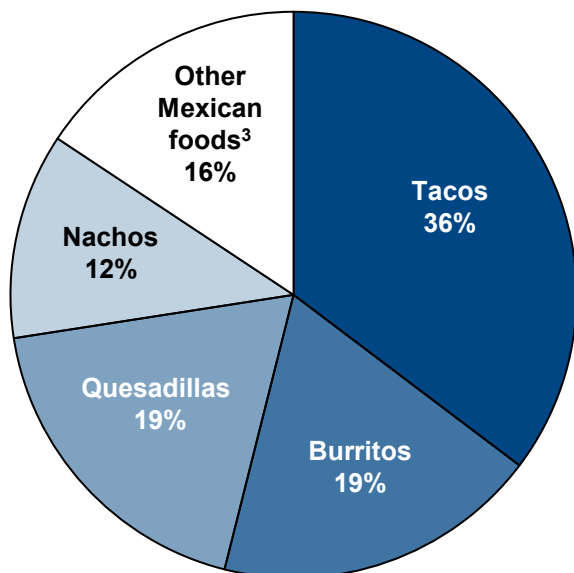
<sup>1</sup>See definition of “eating occasion” on page 8.

<sup>2</sup>See definition of “Mexican foods” on page 8.

SOURCE: WWEIA, NHANES 2017 – March 2020, day 1, children 2 - 19 years of age.

### What types of Mexican food are consumed?

Figure 6. Type (%)<sup>1</sup> of Mexican food<sup>2</sup> consumed among children age 2 – 19 years, WWEIA, NHANES 2017 – March 2020



Tacos account for slightly more than one-third of all Mexican food reports among children. (Figure 6). Burritos and quesadillas are reported at about half the rate of tacos.

<sup>1</sup>Estimates do not add to 100 due to rounding.

<sup>2</sup>See definition of “Mexican food” on page 8.

<sup>3</sup>Includes enchiladas, tamales, gorditas, chimichangas, fajitas, and other Mexican dishes not specifically listed.

SOURCE: WWEIA, NHANES 2017 – March 2020, day 1, children 2 - 19 years of age.

## How much energy does Mexican food provide for children who consume it?

Mexican food provides an average of 600 kilocalories to total intake of children who consume it on the intake day (699 for males and 502 kilocalories for females, 32% versus 28% of total daily energy, respectively;  $p > 0.001$ ). This total may be from single or multiple Mexican food items, whose consumption may occur at one or more occasions. Not surprisingly, the total contribution of Mexican foods to energy intake varies by age group. Among children 2-5 years, they provide a total daily average of 336 kilocalories; for those 6-11 years, 615 kilocalories; and for those 12-19 years, 700 kilocalories.

Table 1 shows the mean contribution of the Mexican food types analyzed in this report to the daily energy intake of children 2-19 years. In many cases, consuming multiple items and using sauces and condiments such as guacamole and sour cream cause the average energy contributions (shown in column 2) to be far higher than the energy content of typical standard items (column 3).

**Table 1. Mexican foods<sup>1</sup>: Mean energy contribution per consumer<sup>2</sup> and examples by food type, children 2 – 19 years, WWEIA, NHANES 2017 – March 2020**

Type of Mexican food	Mean energy contribution per consumer of Mexican food type (kilocalories <sup>3</sup> )	Example of Mexican food type; portion size (energy content) <sup>4</sup>
Taco	517	Taco, corn tortilla, beef, cheese 1 small/regular (261 kcal)
		Taco, flour tortilla, chicken, cheese 1 small/regular (231 kcal)
Burrito	667	Burrito, beef, with beans, cheese 1 small/regular (482 kcal)
		Burrito, with beans and rice, cheese 1 small/regular (444 kcal)
Quesadilla	504	Quesadilla, cheese only 1 half circle (191 kcal)
Nachos	513 <sup>†</sup>	Nachos, beef or pork 1 order (660 kcal)
Other	518 <sup>†</sup>	Enchilada, chicken 1 enchilada (268 kcal)
		Gordita, meat 1 item (520 kcal)
		Fajita, chicken 1 fajita (195 kcal)

<sup>1</sup>See definition of “Mexican food” on page 8.

<sup>2</sup>See definition of “consumer/non-consumer” on page 8.

<sup>3</sup>See definition of “kilocalories” on page 8.

<sup>4</sup>Portion sizes and associated energy content available in Food Data Central (FNDDS data type; 2).

<sup>†</sup>Estimate is less precise than others presented due to small sample size.

SOURCE: WWEIA, NHANES 2017 – March 2020, day 1, children 2 – 19 years of age.

## Does intake of nutrients per 1,000 kilocalories differ between consumers and non-consumers of Mexican food?

With few exceptions, intake of nutrients/food components are not statistically different between children who consume a Mexican food on the intake day (i.e., consumers) and those who do not (non-consumers) on a 1,000 kilocalorie basis (Table 2). Overall, consumers of Mexican food have lower intake of carbohydrate and higher intake of total fat and saturated fat relative to non-consumers.

No statistically significant differences are seen between consumers and non-consumers for carbohydrate within age group, but total fat intake is higher per 1,000 kilocalories among consumers who are 6-11 years, and saturated fat intake is higher among those who are 12-19 years as compared to their non-consumer counterparts (*data not shown*).

**Table 2. Mean daily intake of selected nutrients per 1,000 kilocalories<sup>1</sup> by Mexican foods<sup>2</sup> consumption<sup>3</sup> status among children age 2 - 19 years, all and by gender, 2017 – March 2020**

Nutrient	All children		Males		Females	
	C	NC	C	NC	C	NC
<b>Macronutrients/food components:</b>						
Protein (g)	36	35	37	36	36	34
Carbohydrate (g)	123*	130	123	129	124*	131
Added sugars (tsp eq.)	7	9	8	9	7	9
Dietary fiber (g)	8	7	8	7	9	8
Total fat (g)	41*	39	41*	39	41*	39
Saturated fat (g)	15*	13	15*	13	15	13
Cholesterol	123	120	126	123	120	118
<b>Vitamins:</b>						
Vitamin A (mcg RAE)	298	304	286	299	309	308
Vitamin B12 (mcg)	2.3	2.3	2.5	2.4	2.0	2.2
Vitamin D (mcg)	2.4	2.7	2.5	2.8	2.3	2.6
<b>Minerals:</b>						
Calcium (mg)	572	521	578	526	567	516
Potassium (mg)	1097	1128	1072	1117	1122	1140
Sodium (mg)	1610	1551	1634	1567	1587	1535

Abbreviations: C, consumer; NC, non-consumer kcal, kilocalories; g, grams; tsp eq, teaspoon equivalents; mcg, micrograms; RAE, retinol activity equivalents; mg, milligrams.

<sup>1</sup>See definition of “kilocalories” on page 8.

<sup>2</sup>See definition of “Mexican foods” on page 8.

<sup>3</sup>See definition of “consumer/non-consumer” on page 8.

\*For all or within gender, intake is significantly different from non-consumers ( $p < 0.001$ ) based on a two-tailed t-test.

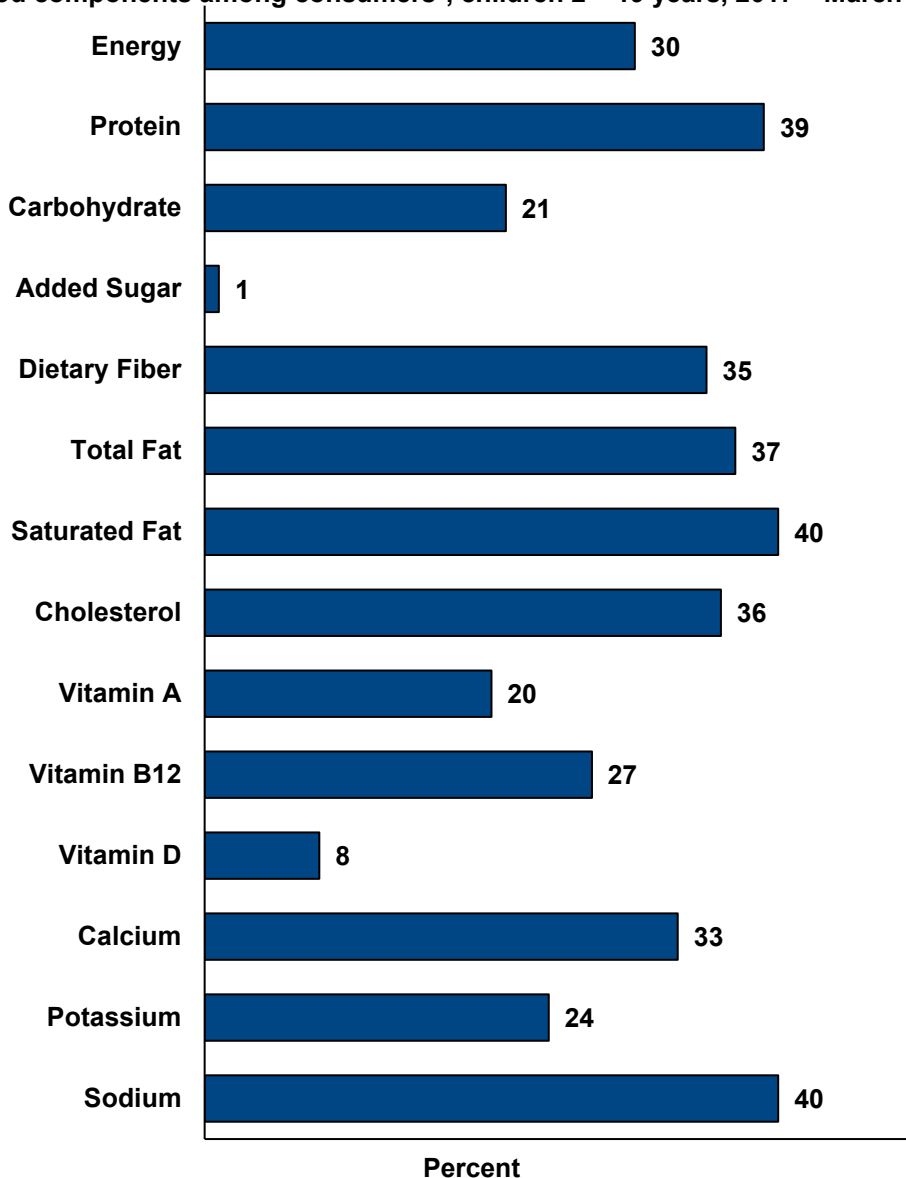
SOURCE: WWEIA, NHANES 2017 - , March 2020, day 1, children 2 – 19 years of age.

## Among Mexican food consumers, how much does it contribute to total daily intakes of energy and nutrients?

Mexican food provides a large percentage of daily intake of energy and many nutrients among children who consume it. In fact, as shown in Figure 7, relative to its energy contribution, Mexican food contributes a greater percentage of total intake of nutrients/food components that are too low in the U.S. diet, such as dietary fiber and calcium, as well as nutrients whose intake should be curbed, such as saturated fat and sodium (3).

The percentage of total energy from Mexican food shows a positive linear trend by age in years ( $p < 0.001$ ). It accounts for 23% of daily intake among consumers 2-5 years of age, 29% for those 6-11, and 32% for those 12-19 years.

**Figure 7. Mean contributions of Mexican food<sup>1</sup> to total daily intakes of energy and selected nutrients/food components among consumers<sup>2</sup>, children 2 – 19 years, 2017 – March 2020**



<sup>1</sup>See definition of “Mexican food” on page 8.

<sup>2</sup>See definition of “consumer/non-consumer” on page 8.

SOURCE: WWEIA, NHANES 2017 – March 2020, day 1, children 2 -19 years of age.

## Definitions

**Consumer/non-consumer:** In general, anyone who consumed a Mexican food on the intake day was considered a “consumer,” whereas anyone who did not was considered a “non-consumer.” In all, 559 children and adolescents were classified as Mexican food consumers (282 males and 277 females), and 3,532 were classified as non-consumers (1,786 males and 1,746 females). Classification as a consumer or non-consumer for this analysis has no implications as to habitual consumption.

**Eating occasion:** Designated by the respondent, eating occasions with the following English and Spanish names were grouped together: breakfast, desayuno, and almuerzo; lunch, brunch, and comida; dinner, supper, and cena; and snack, drink, merienda, entre comida, botana, bocadillo, tentempie, bebida, and items consumed over an extended period of time. The time an eating occasion occurs has no implications as to its type, e.g., breakfast occasions could occur at all times of day and night.

**Family income (as percentage of poverty level):** The ratio of family income to poverty expressed as a percentage. The Department of Health and Human Services’ poverty guidelines, which are based upon the number of persons in a family/household, were used as the poverty measure to calculate the ratio (4).

**Kilocalories:** Scientific unit used in reporting the energy content of food; shortened to “calories” in casual usage in the U.S.

**Mexican food:** Refers to items that are included in the What We Eat in America (WWEIA) Food Category “Mixed Dishes – Mexican”. Also included are Mexican food items that were recorded as their individual ingredients in the dietary recall (*see explanation of these foods in the definition of “WWEIA Food Categories” below*). While commonly referred to as “Mexican” in the U.S., these foods may have originated from various regions of present-day Mexico, other Central American countries, or the southwestern U.S. (“Tex-Mex”). The specific Mexican food groups analyzed and their contents are as follows:

<b>Tacos:</b>	Corn or flour tortilla with various fillings such as meat, chicken, fish, beans, and/or cheese.
<b>Burritos:</b>	Flour tortilla with various fillings such as meat, chicken, beans, rice, and/or cheese.
<b>Quesadillas:</b>	Flour tortilla with cheese and possibly other fillings such as beef, chicken, and/or vegetables.
<b>Nachos:</b>	Corn chips with cheese sauce and possibly other toppings such as meat, chicken, and/or refried beans.
<b>Other Mexican foods:</b>	Enchiladas, tamales, gorditas, chalupas, chimichangas, taquitos/flautas, fajitas, pupusas, arepas, chiles rellenos with various fillings.

Notable exclusions from this analysis are beverages (e.g., horchata, licuado), desserts (e.g., flan, churro), fried vegetables (e.g, plantains, yuca) and soups (e.g, sopa de fideo). Sauces/dips such as guacamole and salsa are also excluded unless they were consumed with a food from one of the Mexican food groups.

**WWEIA Food Categories:** Available at [www.ars.usda.gov/nea/bhnrc/fsrg/wweia\\_categories](http://www.ars.usda.gov/nea/bhnrc/fsrg/wweia_categories), the WWEIA Food Categories classify each food and beverage reported in WWEIA, NHANES into one of 169 mutually exclusive categories. In contrast to the Categories’ item-by-item classification, this analysis classified as a group any foods that were represented in the dietary data by two or more items linked as having been consumed together into the most appropriate WWEIA Food Category. For example, if a burrito was represented in the dietary data as flour tortilla, ground beef, beans, and cheese with guacamole added, all these components would be assigned to the “tacos and burritos” WWEIA Food Category along with similar items that were not represented by multiple foods, e.g, an item that assigned the food code “58102330”: Burrito, beef, with beans, cheese.”



## Data source

Estimates in this data brief are based on one day of dietary intake data from WWEIA, NHANES 2017-March 2020 Prepandemic (5). Day 1 dietary data were collected in person using the 5-step USDA Automated Multiple-Pass Method for the 24-hour recall. A total of 4,091 individuals 2-19 years of age (2,068 males and 2,023 females) provided complete and reliable dietary intake data. In the race-specific analyses (see page 2), individuals who were multi-racial or of a racial group other than those listed (339 individuals, of whom 46 were Mexican food consumers) were excluded. Likewise, in the income-specific analyses (also on page 2), individuals with missing family income information (413 individuals, of whom 57 were Mexican food consumers) were excluded. Sample weights were applied in all analyses to produce estimates that were representative of the U.S. population for the years of collection. Intakes of energy and nutrients were calculated using the 2017-2018 and 2019-2020 versions of USDA's Food and Nutrient Database for Dietary Studies (6). Intake of added sugars was calculated using the Food Patterns Equivalents Database for Use with WWEIA, NHANES 2017-March 2020 Prepandemic (7).

## References

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## About the authors

Rhonda S. Sebastian, Sara B. Crawford, Joseph D. Goldman, and Alanna J. Moshfegh are with the Food Surveys Research Group, Beltsville Human Nutrition Research Center, Agricultural Research Service, U.S. Department of Agriculture, Beltsville, MD.

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