



Consumption of Mexican Food by U.S. Adults

What We Eat in America, NHANES 2017 – March 2020

Food Surveys Research Group
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Highlights

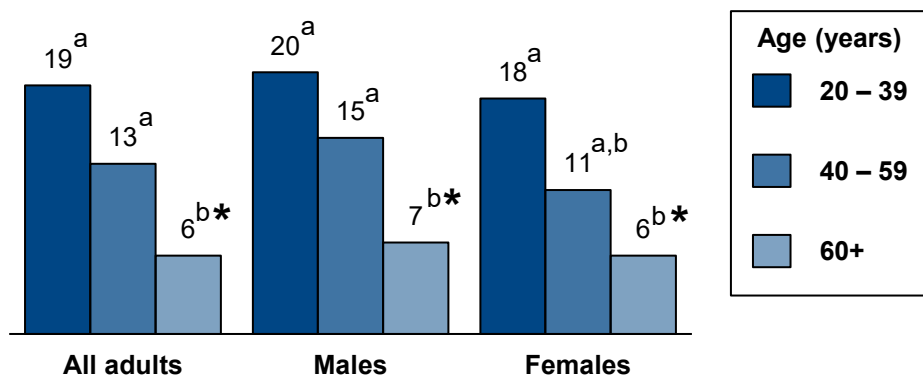
- ▶ On any given day, 13% of adults 20+ years consume at least one Mexican food with higher prevalence among those 20-59 years.
- ▶ Hispanic adults are 2-3 times more likely to consume Mexican food than adults in other race/ethnic groups.
- ▶ Grocery stores and fast food restaurants are the primary sources of Mexican food/Mexican food ingredients.
- ▶ Among Mexican food reported by adults, 39% are tacos and 23% are burritos.
- ▶ When consumed, energy intake from Mexican food exceeds 500 kilocalories at all meals and for all types (e.g., tacos, burritos).
- ▶ On a 1,000 kilocalorie basis, intake of saturated fat and dietary fiber is higher and vitamins A, D, and potassium is lower among adults who consume Mexican food on the intake day relative to those who do not.
- ▶ For consumers of Mexican food it contributes on average 30% of total daily intake of energy, 40% of saturated fat, and 39% of sodium.

Tacos, burritos, and other Mexican foods are popular dietary choices in the U.S. (see definition of “Mexican food” on page 8). Approximately one out of every ten U.S. restaurants serve Mexican food (1), and a majority of the U.S. population used Mexican food/ingredients in 2020 (2). However, few details are known about their consumption. The purpose of this report is to describe intake of select highly reported Mexican foods by U.S. adults 20 years and older: who consumes them, what types of foods are consumed, and their contributions to energy and nutrient intake. 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. 63) describes Mexican food consumption by U.S. children 2-19 years.

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

Overall, 13% of U.S. adults consume one or more Mexican foods on any given day, with no statistically significant difference between males and females (14% vs. 12%, respectively). However, for all adults and by gender, prevalence of consumption is higher in one or more of the younger age groups (Figure 1).

Figure 1. Prevalence (%) of Mexican food¹ consumption among adults age 20+ years, by gender and age, WWEIA, NHANES 2017 – March 2020



¹See definition of “Mexican food” on page 8.

^{a,b}For all adults and within gender, percentage estimates with different superscripts differ by age group ($p < 0.001$) based on a two-tailed t-test.

*For all adults and within gender, inverse linear trend in Mexican food consumption by age ($p < 0.001$) based on regression analysis.

SOURCE: WWEIA, NHANES 2017 – March 2020, day 1, adults 20 years of age and older.



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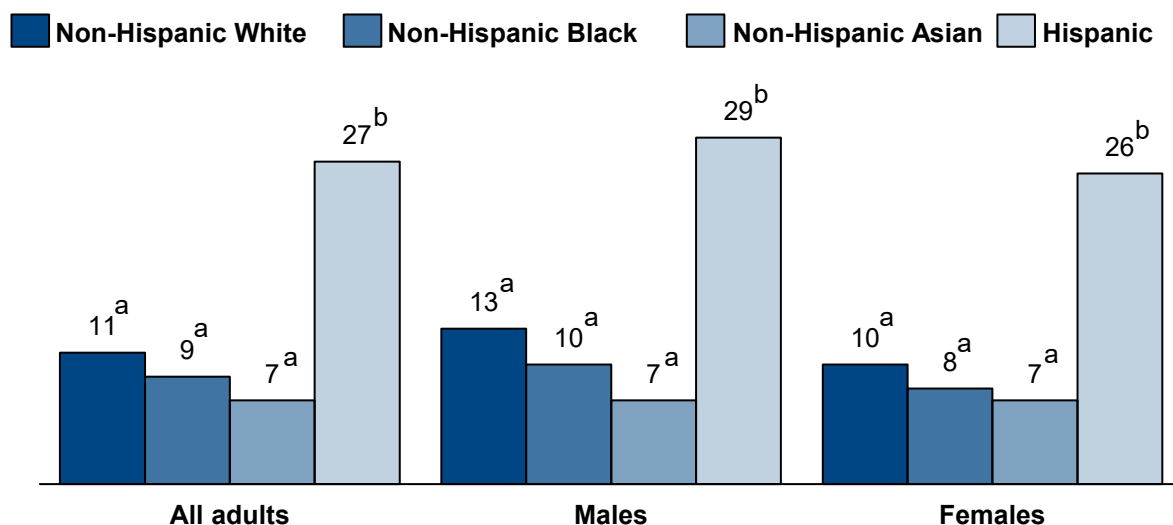
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Does the prevalence of Mexican food consumption differ by race/ethnicity or family income?

As shown in Figure 2, adults who are Hispanic are 2 to 3 times more likely to consume a Mexican food on the intake day as compared to those in all other race/ethnic groups shown. In fact, among all adult Mexican food consumers, 34% are of Hispanic origin (*data not shown*).

There are no significant differences in prevalence of Mexican food consumption by income (Figure 3; $p > 0.001$).

Figure 2. Prevalence (%) of Mexican food¹ consumption among adults age 20+ years, by gender and race/ethnicity, WWEIA, NHANES 2017 – March 2020

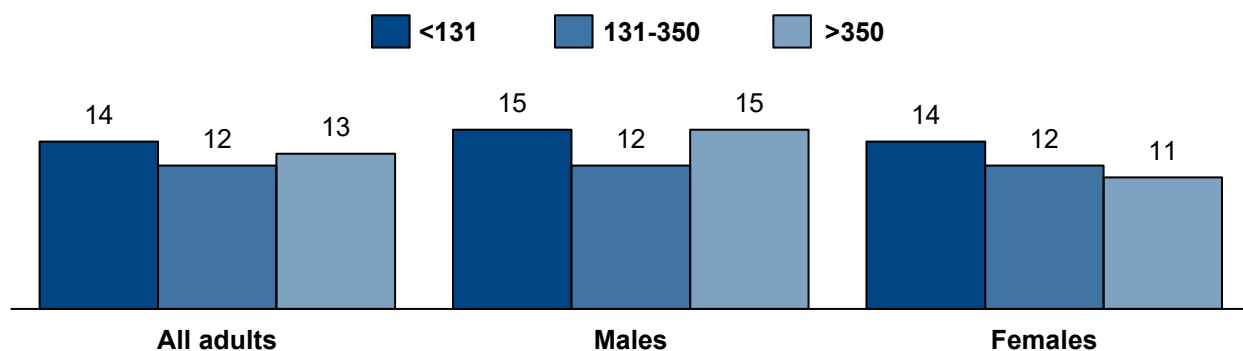


¹See definition of “Mexican food” on page 8.

^{a,b}For all adults and by gender, percentage estimates with different superscripts differ by race/ethnicity ($p < 0.001$) based on a two-tailed t-test.

SOURCE: WWEIA, NHANES 2017 – March 2020, day 1, adults 20 years of age and older.

Figure 3. Prevalence (%)^a of Mexican food¹ consumption among adults age 20+ years, by gender and family income as % of poverty level², WWEIA, NHANES 2017- March 2020



^aFor all adults and by gender, percentage estimates do not differ by income ($p > 0.001$) based on a two-tailed t-test.

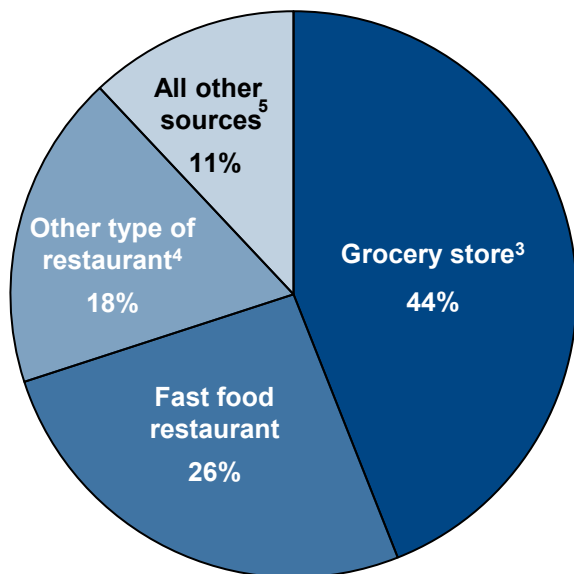
¹See definition of “Mexican food” on page 8.

²Ratio 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, adults 20 years of age and older.

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

Figure 4. Source (%)¹ of Mexican food² consumed among adults age 20+ years, WWEIA, NHANES 2017- March 2020



As shown in Figure 4, grocery stores are the source of 44% of Mexican food and Mexican food ingredients consumed by adults. This includes premade items, such as frozen tacos or burritos as well as ingredients to prepare Mexican food, e.g., tortillas, ground beef, cheese, tomatoes. This same percentage (44%) is obtained from restaurants collectively (fast food and other). In contrast, among Hispanics alone, 50% of Mexican food/ingredients are obtained from grocery stores, and only 36% from all restaurants combined (*data not shown*).

¹Estimates do not add to 100 due to rounding.

²See definition of “Mexican food” on page 8.

³Includes supermarkets, warehouse clubs, specialty stores, and ethnic food stores.

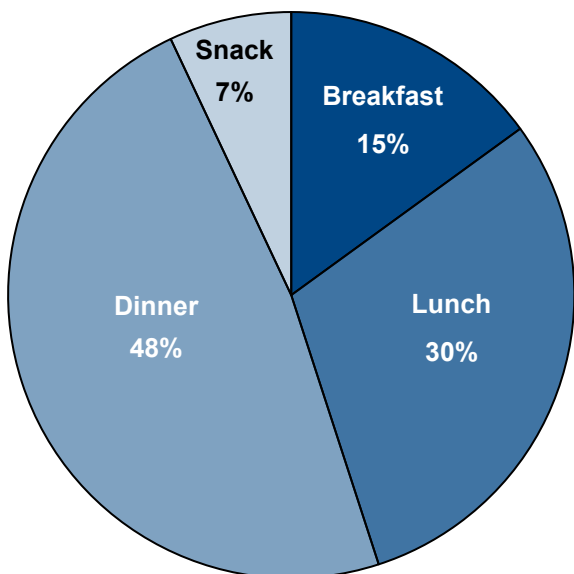
⁴Includes restaurant with waiter/waitress service; bar/tavern/lounge; cafeteria; and restaurant, not further specified.

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

SOURCE: WWEIA, NHANES 2017 – March 2020, day 1, adults 20 years of age and older.

At what eating occasions are Mexican food consumed?

Figure 5. Eating occasion¹ (%) at which Mexican food² is consumed among adults age 20+ years, WWEIA, NHANES 2017- March 2020



Mexican food is consumed at all types of eating occasions by adults (*see definition of “eating occasion” on page 8*).

However, nearly half (48%) is consumed at dinner (Figure 5).

Regardless of the occasion, the contribution of these foods to energy intake of adults is considerable. When Mexican food is consumed at the specific meal in question on the intake day, it provides on average a cumulative total of 571 kilocalories at breakfast, 695 kilocalories at lunch, 734 kilocalories at dinner, and 590 kilocalories at snack occasions.

¹See definition of “eating occasion” on page 8.

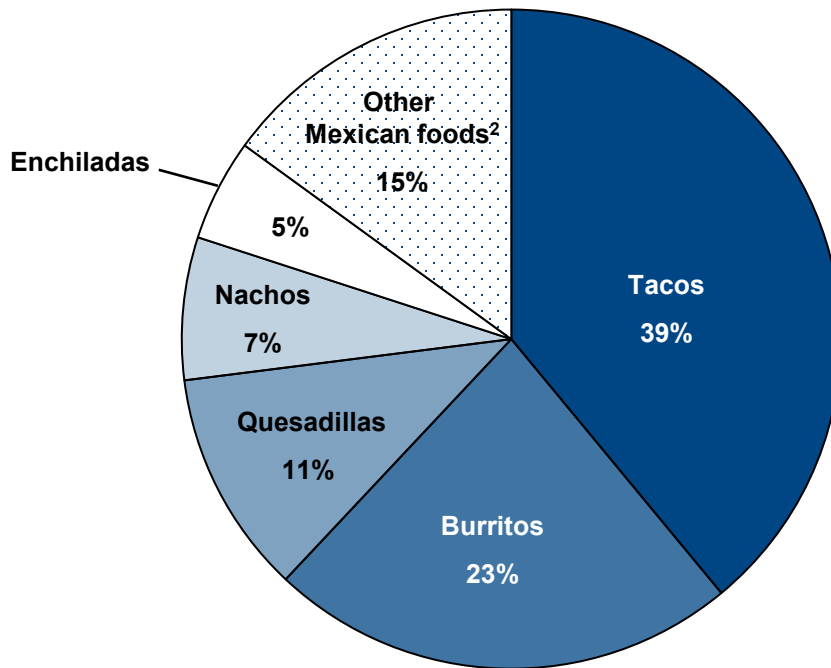
²See definition of “Mexican food” on page 8.

SOURCE: WWEIA, NHANES 2017 – March 2020, day 1, adults 20 years of age and older.

What types of Mexican food are consumed?

Tacos account for the largest percentage of Mexican foods reports by adults, followed by burritos, other Mexican foods, quesadillas, nachos, and enchiladas (Figure 6). Though the order of predominance varies somewhat by age, race/ethnicity, and gender, tacos are the top reported Mexican food type for all demographic groups analyzed (*data not shown*).

Figure 6. Type (%) of Mexican food¹ consumed among adults age 20+ years, WWEIA, NHANES 2017 – March 2020



¹See definition of “Mexican foods” on page 8.

²Includes tamales, gorditas, chimichangas, fajitas, and other Mexican dishes not specifically listed.

SOURCE: WWEIA, NHANES 2017 – March 2020, day 1, adults 20 years of age and older.

How much energy does Mexican food provide to adults who consume it?

Mexican food provides an average of 752 kilocalories to total energy of adults who consume it on the intake day (811 kilocalories for males, 688 kilocalories for females; 28% of daily intake versus 33%, respectively; $p > 0.001$). Foods accounting for these contributions may have been consumed at the same time (one meal) or over the course of multiple occasions.

The main types of Mexican food and their average contribution to energy among adult consumers of that type are shown in Table 1. In nearly all cases, the mean energy contribution is quite high compared to the energy content for a typical food item in that category. This suggests that often more than one item in that category is reported by a consumer on the intake day. Moreover, additions such as guacamole, sour cream, and salsa boost the energy contributed by these Mexican foods.

Table 1. Mexican food¹: Mean energy contribution per consumer² and examples by food type, adults 20+ years WWEIA, NHANES 2017 – March 2020

| Type of Mexican food | Mean energy contribution per consumer of Mexican food type (kilocalories ³) | Example of Mexican food type; portion size (energy content) ⁴ |
|----------------------|---|--|
| Taco | 713 | Taco, corn tortilla, beef, cheese 1 small/regular (261 kcal) |
| | | Taco, flour tortilla, chicken, cheese 1 small/regular (231 kcal) |
| Burrito | 714 | Burrito, beef, with beans, cheese 1 small/regular (482 kcal) |
| | | Burrito, with beans and rice, cheese 1 small/regular (444 kcal) |
| Quesadilla | 533 | Quesadilla, cheese only 1 half circle (191 kcal) |
| Nachos | 789 | Nachos, beef or pork 1 order (660 kcal) |
| Enchilada | 583 | Enchilada, chicken 1 enchilada (268 kcal) |
| Other | 537 | Tamale, chicken 1 item (244 kcal) |
| | | Gordita, meat 1 item (520 kcal) |
| | | Fajita, chicken 1 fajita (195 kcal) |

¹See definition of “Mexican food” on page 8.

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

³See definition of “kilocalories” on page 8.

⁴Portion sizes and associated energy content available in Food Data Central (FNDDS data type; 3).

SOURCE: WWEIA, NHANES 2017 – March 2020, day 1, adults 20 years of age and older.

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

Intake of many nutrients/food components analyzed are similar between those who consume a Mexican food on the intake day (i.e., consumers) and those who did not (non-consumers) on a 1,000 kilocalorie basis; however, there are some noted differences (Table 2). Nutrients that are marginally higher among consumers are dietary fiber (all and males only) and saturated fat, whereas nutrients which are lower are Vitamins A and D and potassium (all and females only). In addition, carbohydrate is lower among female consumers relative to female non-consumers.

Interesting patterns emerge when comparing nutrient intakes among consumers and non-consumers by age group. Higher intakes of total fat, saturated fat, and calcium are only seen among adult consumers 20-39 years relative to their non-consumer peers, whereas lower intakes of Vitamin A and D are only seen among adult consumers 40+ years (*data not shown*).

Table 2. Mean daily intake of selected nutrients per 1,000 kilocalories¹ by Mexican food² consumption³ status among adults age 20+ years, all and by gender, 2017 – March 2020

| Nutrient | All adults | | Males | | Females | |
|--|------------|------|-------|------|---------|------|
| | C | NC | C | NC | C | NC |
| Macronutrients/food components: | | | | | | |
| Protein (g) | 38 | 39 | 39 | 39 | 37 | 39 |
| Carbohydrate (g) | 112 | 116 | 112 | 114 | 112* | 117 |
| Added sugars (tsp eq.) | 7 | 8 | 7 | 8 | 7 | 8 |
| Dietary fiber (g) | 9* | 8 | 9* | 7 | 9 | 9 |
| Total fat (g) | 42 | 40 | 41 | 40 | 43 | 41 |
| Saturated fat (g) | 14* | 13 | 14* | 13 | 15* | 13 |
| Cholesterol | 145 | 152 | 144 | 151 | 147 | 154 |
| Vitamins: | | | | | | |
| Vitamin A (mcg RAE) | 253* | 321 | 236* | 286 | 273* | 353 |
| Vitamin B12 (mcg) | 2.1 | 2.3 | 2.4 | 2.4 | 1.9 | 2.1 |
| Vitamin D (mcg) | 1.6* | 2.2 | 1.5* | 2.2 | 1.6* | 2.2 |
| Minerals: | | | | | | |
| Calcium (mg) | 493 | 471 | 484 | 461 | 504 | 480 |
| Potassium (mg) | 1158* | 1292 | 1140 | 1235 | 1177* | 1344 |
| Sodium (mg) | 1717 | 1675 | 1736 | 1716 | 1695 | 1638 |

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

¹See definition of “kilocalories” on page 8.

²See definition of “Mexican food” on page 8.

³See 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.

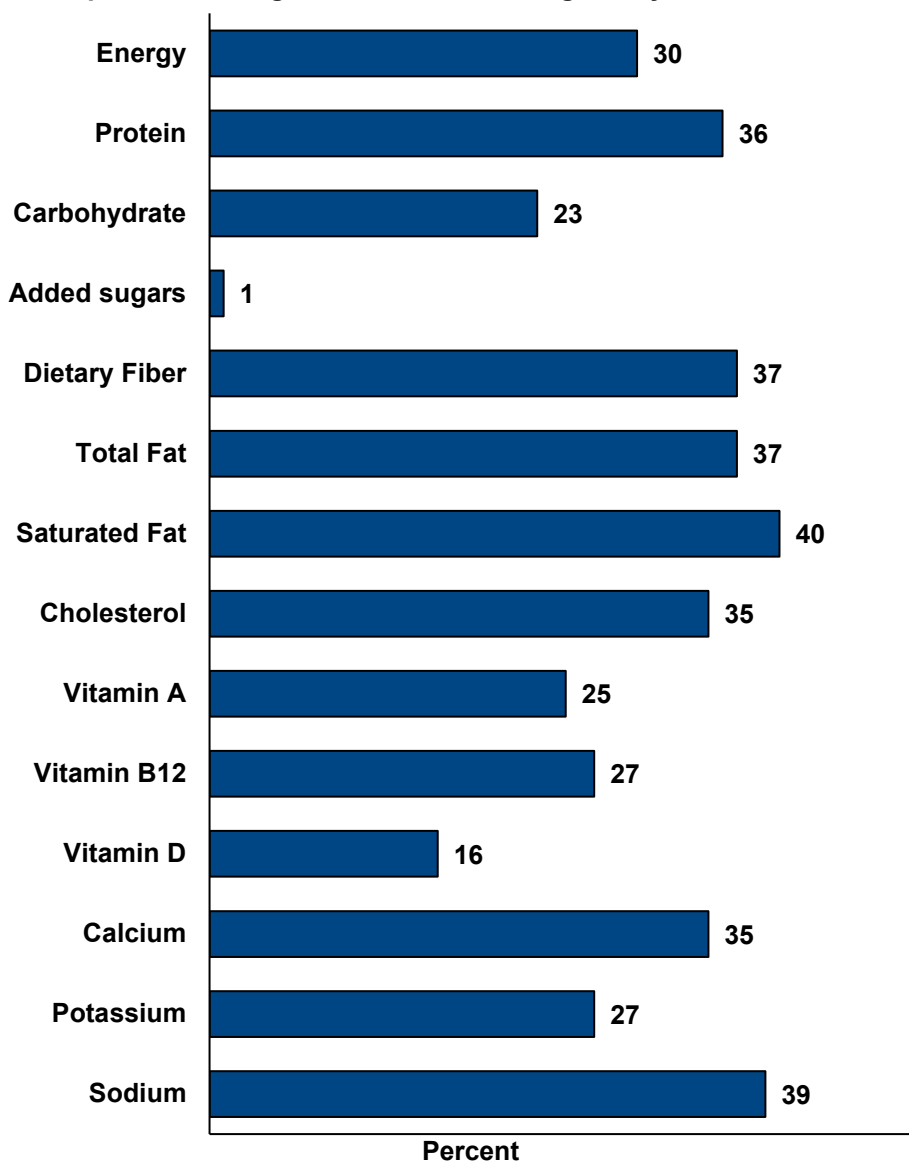
SOURCE: WWEIA, NHANES 2017 - 2018, day 1, adults 20 years of age and older.

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

On average, for adults who consume a Mexican food on the intake day, it contributes 30 percent of energy and more than one-third of protein, dietary fiber, total fat, saturated fat, cholesterol, calcium and sodium (Figure 7).

These nutrient contributions can be partially explained by the fact that cheese is a common ingredient in Mexican food (4). Cheese is a rich source of protein, total fat, saturated fat, cholesterol, calcium, and sodium (3). Meats and beans too are customary ingredients and would contribute to intake of one or more of the nutrients provided by cheese, such as protein. Furthermore, beans contain ample amounts of dietary fiber, which is absent in animal foods (3).

Figure 7. Mean contributions of Mexican food¹ to total daily intakes of energy and selected nutrients/food components among consumers², adults age 20+ years, 2017 – March 2020



¹See definition of “Mexican food” on page 8.

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

SOURCE: WWEIA, NHANES 2017 – March 2020, day 1, adults 20 years of age and older.

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, 998 adults were classified as Mexican food consumers (493 males and 505 females), and 6,709 were classified as non-consumers (3252 males and 3457 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 the family/household, were used as the poverty measure to calculate the ratio (5).

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 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 in this report and their contents are as follows:

| | |
|-----------------------------|---|
| Tacos: | Corn or flour tortilla with various fillings such as meat, chicken, fish, beans, and/or cheese. |
| Burritos: | Flour tortilla with various fillings such as meat, chicken, beans, rice, and/or cheese. |
| Quesadillas: | Flour tortilla with cheese and possibly other fillings such as beef, chicken, and/or vegetables. |
| Nachos: | Corn chips with cheese sauce and possibly other toppings such as meat, chicken, and/or refried beans. |
| Enchiladas: | Corn tortilla with filling such as beef, pork, chicken and/or refried beans. Topped with enchilada sauce prior to cooking. |
| Other Mexican foods: | 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, the WWEIA Food Categories classify each food and beverage 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 (6). 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 7,707 individuals 20 years of age and older (3,745 males and 3,962 females) provided complete and reliable dietary intake data. Pregnant (n = 77) and lactating (n = 54) females were retained. In the race-specific analyses (see page 2), individuals who were multi-racial or of a racial group other than those listed (368 adults, of whom 42 were Mexican food consumers) were excluded. Likewise, in the income-specific analyses (also on page 2), individuals with missing family income information (971 adults, of whom 143 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 (7). Intake of added sugars was calculated using the Food Patterns Equivalents Database for Use with WWEIA, NHANES 2017- March 2020 Prepandemic (8).

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