

Dietary Supplement Use Among Adults: United States, 2017–2018

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Key findings

Data from the National Health and Nutrition Examination Survey

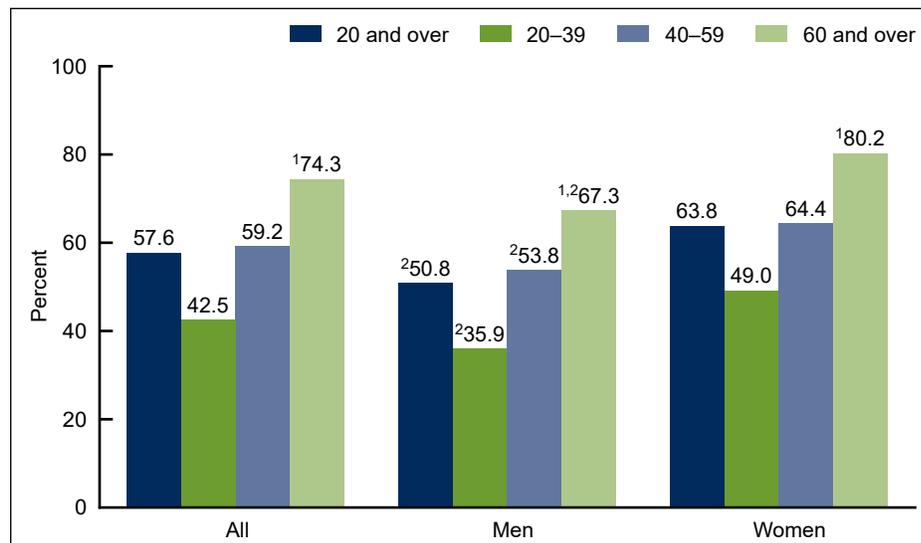
- Among U.S. adults aged 20 and over, 57.6% used any dietary supplement in the past 30 days, and use was higher among women (63.8%) than men (50.8%).
- Dietary supplement use increased with age, overall and in both sexes, and was highest among women aged 60 and over (80.2%).
- The use of two, three, and four or more dietary supplements increased with age, while the percentage of adults not using any dietary supplement decreased with age.
- The most common types of dietary supplements used by all age groups were multivitamin-mineral supplements, followed by vitamin D and omega-3 fatty acid supplements.
- From 2007–2008 through 2017–2018, the prevalence of dietary supplement use increased in all age groups among U.S. adults.

Dietary supplement use is common in the United States (1). The additional nutrients provided by dietary supplements can help meet recommended nutrient targets but can also potentially lead to excess intakes (2,3). This report describes recent prevalence estimates for dietary supplement use among U.S. adults, the distribution of the number of dietary supplements used, and the most common types of dietary supplements used. Trends in dietary supplement use from 2007–2008 through 2017–2018 are also reported.

What percentage of U.S. adults used any dietary supplement in the past 30 days, and did this vary by sex and age in 2017–2018?

During 2017–2018, 57.6% of adults aged 20 and over reported using any dietary supplement in the past 30 days (Figure 1). A higher percentage of women (63.8%) reported dietary supplement use than men (50.8%). For both

Figure 1. Percentage of adults aged 20 and over who used any dietary supplement, by sex and age: United States, 2017–2018



¹Significant linear increasing trend with age.

²Significantly different from women of the same age group.

NOTE: Access data table for Figure 1 at: <https://www.cdc.gov/nchs/data/databriefs/db399-tables-508.pdf#1>.

SOURCE: National Center for Health Statistics, National Health and Nutrition Examination Survey, 2017–2018.



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sexes, dietary supplement use increased with age. Among men, use increased from 35.9% among those aged 20–39 to 67.3% among those aged 60 and over. Among women, use increased from 49.0% among those aged 20–39 to 80.2% among those aged 60 and over.

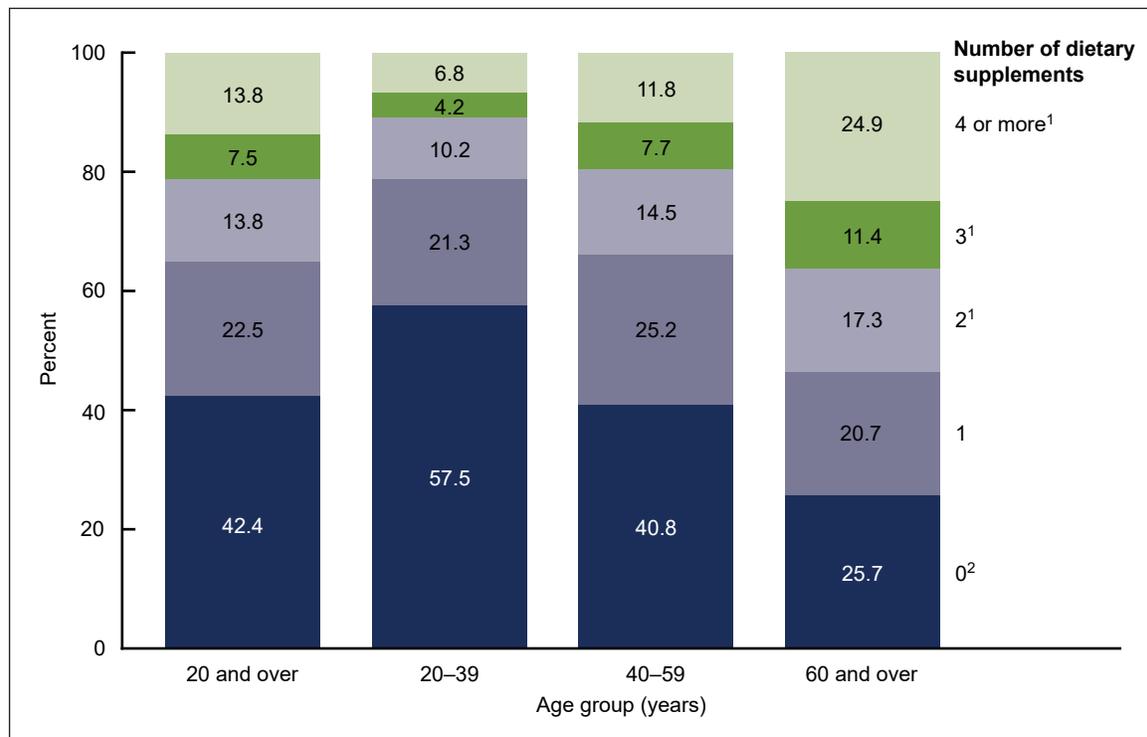
In all age groups, dietary supplement use was higher among women than men.

What percentage of U.S. adults used none, one, two, three, or four or more dietary supplements in the past 30 days?

Among adults aged 20 and over, 42.4% used none, 22.5% used one, 13.8% used two, 7.5% used three, and 13.8% used four or more dietary supplements in the past 30 days (Figure 2).

The use of two dietary supplements (10.2% for ages 20–39, 14.5% for 40–59, and 17.3% for 60 and over), three dietary supplements (4.2% for ages 20–39, 7.7% for 40–59, and 11.4% for 60 and over), and four or more dietary supplements (6.8% for ages 20–39, 11.8% for 40–59, and 24.9% for 60 and over) increased with increasing age. The use of no dietary supplements decreased with age.

Figure 2. Number of dietary supplements used by adults aged 20 and over, by age: United States, 2017–2018



¹Significant linear increasing trend with age.

²Significant linear decreasing trend with age.

NOTE: Access data table for Figure 2 at: <https://www.cdc.gov/nchs/data/databriefs/db399-tables-508.pdf#2>.

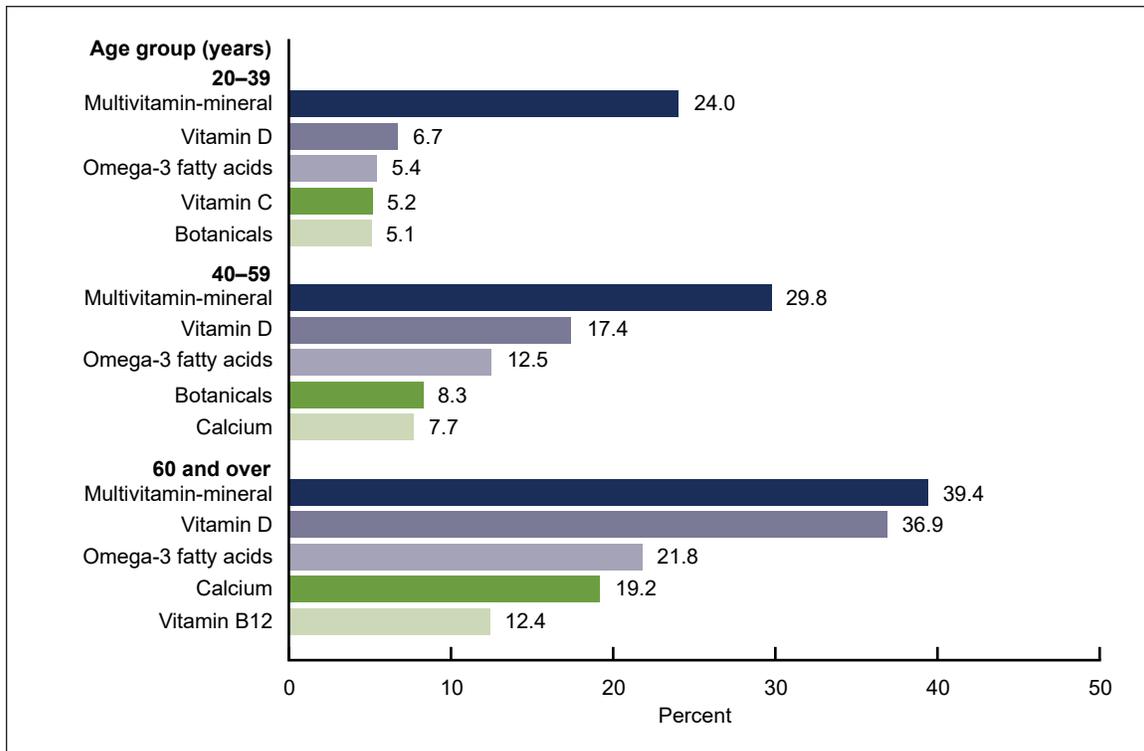
SOURCE: National Center for Health Statistics, National Health and Nutrition Examination Survey, 2017–2018.

What were the most common types of dietary supplements used by U.S. adults by age?

The top three most common types of dietary supplements used by adults were consistent among all age groups (Figure 3). These were multivitamin-mineral (24.0% for ages 20–39, 29.8% for 40–59, and 39.4% for 60 and over), vitamin D (6.7% for ages 20–39, 17.4% for 40–59, and 36.9% for 60 and over), and omega-3 fatty acids (5.4% for ages 20–39, 12.5% for 40–59, and 21.8% for 60 and over).

The fourth most common type of dietary supplement used was vitamin C for those aged 20–39 (5.2%), botanicals for those aged 40–59 (8.3%), and calcium for those aged 60 and over (19.2%). The fifth most common type of dietary supplement was botanicals for those aged 20–39 (5.1%), calcium for those 40–59 (7.7%), and vitamin B12 for those aged 60 and over (12.4%).

Figure 3. Most common types of dietary supplements used by adults aged 20 and over, by age: United States, 2017–2018



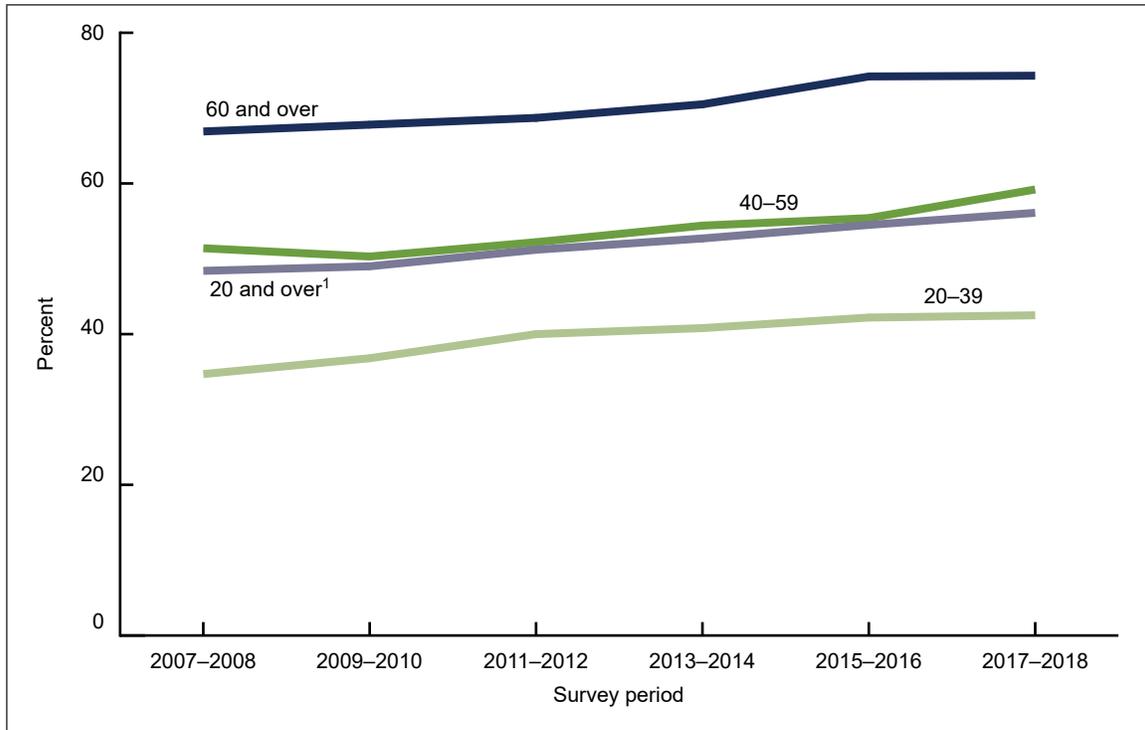
NOTE: Access data table for Figure 3 at: <https://www.cdc.gov/nchs/data/databriefs/db399-tables-508.pdf#3>.

SOURCE: National Center for Health Statistics, National Health and Nutrition Examination Survey, 2017–2018.

What were the trends in the use of any dietary supplement among U.S. adults between 2007–2008 and 2017–2018?

Among all adults from 2007–2008 through 2017–2018, age-adjusted dietary supplement use increased from 48.4% to 56.1% (Figure 4). For all age groups, dietary supplement use increased significantly (from 34.7% in 2007–2008 to 42.5% in 2017–2018 for ages 20–39, 51.4% to 59.2% for ages 40–59, and 66.9% to 74.3% for ages 60 and over).

Figure 4. Trends in age-adjusted percentage of adults aged 20 and over who used any dietary supplement: United States, 2007–2008 through 2017–2018



¹Estimates were age adjusted by the direct method to the 2000 U.S. Census population using age groups 20–39, 40–59, and 60 and over.
 NOTES: Significant linear increasing trend for all groups. Access data table for Figure 4 at: <https://www.cdc.gov/nchs/data/databriefs/db399-tables-508.pdf#4>.
 SOURCE: National Center for Health Statistics, National Health and Nutrition Examination Survey, 2007–2018.

Summary

During 2017–2018, 57.6% of U.S. adults used any dietary supplement in the past 30 days. The percentage of adults using dietary supplements increased with increasing age. Dietary supplement use was higher among women than men in all age groups. The use of multiple (two, three, and four or more) dietary supplements increased with increasing age; nearly one-quarter of adults aged 60 and over (24.9%) reported taking four or more dietary supplements. Multivitamin-mineral supplements were the most common dietary supplements used by adults in all age groups, followed by vitamin D and omega-3 fatty acid products. From 2007–2008 through 2017–2018, the percentage of adults reporting dietary supplement use increased in all age groups. A high level of dietary supplement use can contribute substantially to nutrient intake in the United States, potentially mitigating nutrient shortfalls as well as increasing the risk of excessive intake, especially with high concurrent use of more than one product.

Definitions

Dietary supplement: A product (other than tobacco) that is intended to supplement the diet; contains one or more dietary ingredients (including vitamins, minerals, herbs or other botanicals, amino acids, and other substances) or their constituents; is intended to be taken by mouth as a pill, capsule, tablet, or liquid; and is labeled on the front panel as being a dietary supplement (4). Using this definition, dietary supplement use information was obtained during the household interview. During this interview, participants were asked if they had taken any vitamins, minerals, herbals, or other dietary supplements (including prescription and nonprescription supplements) in the past 30 days. Those who answered “yes” were asked to show the interviewer the product containers of all dietary supplements taken.

Data source and methods

Data from the National Health and Nutrition Examination Survey (NHANES) for the years 2007–2008, 2009–2010, 2011–2012, 2013–2014, 2015–2016, and 2017–2018 were used for these analyses. Data from NHANES 2017–2018 were used to provide the most recent estimates of adults using any dietary supplements, multiple dietary supplements, and specific dietary supplement types, as well as to test differences between subgroups.

NHANES is a series of cross-sectional surveys conducted by the National Center for Health Statistics (NCHS) and is designed to provide nationally representative estimates of the U.S. noninstitutionalized population (5). The survey consists of household interviews followed by standardized physical examinations in a mobile examination center.

Detailed information on the NHANES dietary supplement collection protocol is published elsewhere (6). All products were classified as follows in mutually exclusive categories, except for B-complex: (a) multivitamin-mineral products containing three or more vitamins and one or more minerals; (b) multimineral containing two or more minerals with no vitamins; (c) multivitamin containing two or more vitamins with no minerals; (d) botanical products containing one or more botanical ingredients and no vitamins or minerals; (e) products containing primarily calcium, with or without other ingredients; (f) products containing primarily omega-3 fatty acids, with or without other ingredients; (g) products containing primarily fiber, with or without other

ingredients; (h) products containing primarily probiotics, with or without other ingredients; (i) products containing one or more amino acids; (j) products containing chondroitin, glucosamine, a combination, or methylsulfonylmethane; (k) products containing primarily melatonin, with or without other ingredients; (l) B-complex products containing any combination of thiamin, riboflavin, niacin, vitamin B6, vitamin B12, folic acid, pantothenic acid, folinic acid, and pyridoxal-5-phosphate without minerals; and (m) single vitamins (for example, vitamin D, vitamin C, and vitamin B12).

Data were analyzed using the interview weights to account for the differential probabilities of selection, nonresponse, and noncoverage. Standard errors were estimated using Taylor series linearization to account for the complex sampling design. Pair-wise differences between groups were tested using a univariate *t* statistic. For trends among categorical variables, the categories were ordered as continuous independent variables and tested using linear regression. For trends over time, the 2-year cycles were used as a continuous independent variable and were tested using orthogonal polynomials. Calculated estimates for trends over time were age-adjusted using the direct method to the 2000 projected U.S. population using age groups 20–39, 40–59, and 60 and over. All estimates met the standards for presentation described in the NCHS Data Presentation Standards for Proportions (7). All differences reported were statistically significant at the $p < 0.05$ significance level unless otherwise indicated. Statistical analyses were conducted using SAS System for Windows version 9.4 (SAS Institute, Inc., Cary, N.C.), SUDAAN version 11.0 (RTI International, Research Triangle Park, N.C.), and R version 3.6.0 (R Foundation for Statistical Computing, Vienna, Austria), including the R survey package (8), to account for the complex sample design.

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