Vitamin or Supplement Use Among Adults, Behavioral Risk Factor Surveillance System, 13 States, 2001

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SYNOPSIS

Objective. The authors examined vitamin/supplement (V/S) use and its relationship to sociodemographics, health behaviors, and health conditions among adults in 13 states.

Methods. This investigation used 2001 data from a cross-sectional study of non-institutionalized adults aged ≥18 years, the Behavioral Risk Factor Surveillance System.

Results. Of 45,415 respondents with complete data (18,723 males and 26,692 females), 56.5% (n=5,652) reported current V/S use. After adjusting for age, sex, race/ethnicity, and education, the authors found a statistically significant association between V/S use and positive health risk behavior (adjusted odds ratio [OR]=1.46; $p<0.001$). Also, V/S use was found to increase with age ($p<0.001$). No association was found between V/S use and the absence of specific chronic disease conditions (adjusted OR=0.93; $p=0.052$).

Conclusions. People who used V/S in the states surveyed were more likely to demonstrate positive health risk behaviors than those who did not report V/S use. Thus it appears that individuals who are most likely to use V/S are least likely to need V/S. It is crucial that individuals report quantity and frequency of V/S use when providing medical or diet histories to health care providers.

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The widespread use of dietary supplements was a major change in Americans' health behaviors during the 1990s.[1] Dietary supplement sales increased by nearly 80% from 1994 to 2000.[1] According to the 1992 National Health Interview Survey (NHIS), 46% of adults in the United States reported using a vitamin or mineral supplement at least once in the previous year, and approximately 24% reported daily use.[2] Today, consumers can choose from a large variety of fortified foods and dietary supplements because there is growing interest in using dietary supplements to maintain health and prevent disease.[3–6] Specifically, the elderly may be the most likely age group to use dietary supplements.[7,8] The elderly are at elevated risk of suboptimal nutritional intake due to chronic disease, physical limitation, and limited income.[9,10] Inadequate intake of several vitamins has been associated with chronic diseases such as cancer, osteoporosis, and cardiovascular disease.[11] In addition, prior research has shown that supplement or vitamin users differ from nonusers in demographics, tobacco use, alcohol consumption, and exercise levels.[12–16]

The objective of the present analysis was to examine the characteristics of vitamin or supplement (V/S) users in 13 states and to examine the association of V/S use with health risk behavior and health conditions among non-elderly and elderly (aged ≥55 years) adults. We analyzed data from the 2001 Behavioral Risk Factor Surveillance System (BRFSS), the largest state-based telephone survey of adults aged ≥18 years and a unique source of risk behavior and chronic disease data for the states.

METHODS

The BRFSS is a standardized telephone survey operated by state health agencies with the assistance of the Centers for Disease Control and Prevention (CDC). The BRFSS collects data from adults aged ≥18 years on health behaviors and health conditions. The design and characteristics of the BRFSS are described elsewhere.[17,18] In 2001, a V/S use module was administered by 13 states (Alabama, Arizona, Delaware, Florida, Indiana, Iowa, Kentucky, Nebraska, North Dakota, Pennsylvania, Tennessee, Texas, and Wisconsin). The module contained the following three questions: (*1*) "Do you currently take any vitamin pills or supplements?" (*2*) "Are any of these a multivitamin?" (*3*) "How often do you take this vitamin pill or supplement?"

BRFSS 2001 included questions on perceived general health, weight and height, physical activity, smoking status, and alcohol consumption. Self-rated health was assessed by asking respondents, "Would you say that in general your health is excellent, very good, good, fair, or poor?" We used data on self-reported weight and height to calculate body mass index (BMI). Participants were classified as *underweight* (defined as BMI <18.5 kg/m^2), *normal weight* (BMI ≥18.5 kg/m^2<25 kg/m^2), *overweight* (BMI ≥25 kg/m^2<30 kg/m^2), or *obese* (BMI ≥30 kg/m^2).[19]

One question was used to assess leisure-time physical activity: "During the past 30 days, other than your regular job, did you participate in any physical activities or exercise such as running, calisthenics, golf, gardening, or walking for exercise?" Respondents were considered *physically active* if they responded "yes" and *physically inactive* if they responded "no."

We assessed smoking status by asking respondents, "Have you smoked at least 100 cigarettes in your entire life?" Those who responded "yes" were also asked, "Do you now smoke cigarettes every day, some days, or not at all?" Respondents were considered *current smokers* if they reported that they had smoked at least 100 cigarettes in their lifetime and that they currently smoke.

Three survey questions were used to assess alcohol consumption: (*1*) "A drink is one can or bottle of beer, one glass of wine, one can or bottle of wine cooler, one cocktail, or one shot of liquor. During the past 30 days, how often have you had at least one drink of any alcoholic beverage?" (*2*) "On the days when you drank, about how many drinks did you drink on the average?" (3) "Considering all types of alcoholic beverages, how many times during the past month did you have five or more drinks on an occasion?" A *nondrinker* was defined as someone who had not consumed alcohol in the past 30 days. A *moderate drinker* was defined as either a man who consumed ≥1 drink per month but ≤2 drinks per day on average, or a woman who consumed ≥1 per month but ≤1 drink per day on average. A *heavy drinker* was defined as either a man who consumed >2 drinks per day on average or a woman who consumed >1 drink per day on average.[20] *Binge drinking* was defined as the consumption of five or more drinks on at least one occasion in the past month.

We developed composite variables for health risk behaviors and health conditions. Respondents were classified into two health risk behavior categories: (*1*) all positive health risk behaviors—nonsmoker or former smoker; physically active; not a binge drinker, nondrinker, or moderate drinker; *and* not overweight or obese; and (*2*) ≥1 negative health risk behaviors—current smoker, physically inactive, binge drinker, heavy drinker, *or* overweight or obese. For example, if respondents were overweight and nonsmokers, they were placed into the ≥1 negative health risk behavior category. In addition, respondents were classified into two health condition categories: (*1*) absence of six specific conditions (nongestational diabetes, doctor-diagnosed arthritis, chronic joint symptoms, asthma, hypertension, *and* hypercholesterolemia), and (*2*) presence of one or more of these conditions.

We first conducted univariate analyses of the relationships between V/S use and sociodemographic characteristics using chi-square analysis. We then conducted bivariate analyses of health risk behaviors according to V/S use, using pairwise tests. Finally, we conducted logistic regression modeling to determine if health risk behavior was independently associated with V/S use in models adjusted for confounders (sex, age, race/ethnicity, and education). Another analysis was also conducted to examine the association between V/S use and health condition.

For the logistic regression analyses, the following covariate groupings were used: sex (female, male), age (18–24, 25–34, 35–44, 45–54, 55–64, ≥65), race/ethnicity (non-Hispanic white, non-Hispanic black, non-Hispanic other, Hispanic), education (≤high school, >high school).

A sub-analysis was conducted on BRFSS respondents aged ≥55 years. Because of the complex sampling design, we used SAS and SUDAAN to calculate standard errors (SEs) and prevalence estimates and to calculate adjusted odds ratios (ORs) and 95% confidence intervals (CIs) for the association of V/S use with health risk behavior and health

conditions.[21,22] For all analyses, *p*-values <0.05 were considered statistically significant. Data were weighted to the most current Census data.

RESULTS

A total of 51,477 respondents participated in the BRFSS in the 13 states. For the present study, we excluded pregnant women and respondents with missing data for V/S use, sociodemographics, or health behaviors of interest (n=6,062). The analyses reported here are based on 45,415 participants with complete data. The cooperation response rate ranged from 76.1% to 42.7% (median=57.7%).

Approximately 56% (n=25,652) of adults aged ≥18 years in the 13 states reported current use of V/S. Of those, 81% (n=20,841) said they took multivitamins. Eighty-three percent of respondents who reported using V/S reported taking ≥1<2 pills per day of multivitamins or supplements; 4% reported taking ≥2<3 pills per day; and 3% reported taking ≥3 pills per day. Ten percent of respondents reported taking <1 pill per day.

Table 1 shows the demographic distribution of V/S use by age, sex, race/ethnicity, education, employment, and marital status. V/S use increased with age (p<0.001). Respondents identified as non-Hispanic white (59%) were more likely to use V/S than members of other groups (p<0.01); females (62%) were more likely to use V/S than males (p<0.01); those with more than 12 years of education (62%) were more likely to use V/S than those with less education (p<0.01); and those who were married (57%) or previously married (61%) were more likely to use V/S than those who were never married (p<0.01). Those who were students, homemakers, retired, unable to work, or unemployed (61%) were more likely to use V/S than those who were employed or self-employed (p<0.01).

We also examined health status. Fifteen percent of V/S users reported fair or poor health, compared with 17% of nonusers, and 85% reported good or excellent health, compared with 83% of nonusers.

Those who used V/S were more likely than those who did not use V/S to have all positive health risk behaviors (24.3% vs. 16.3%; p<0.001). Approximately 80% of V/S users were former smokers or had never smoked, 41% had normal weight, 78% were physically active, 95% were not heavy drinkers, and 88% were not binge drinkers (pairwise tests; p<0.001) (Table 2). After adjusting for covariates, we found

Table 1. Distribution of vitamin or supplement use by demographics, 13 states, 2001

	Vitamin or supplement use		
Demographic characteristic	*Total (n=45,415) Percent (SE)*	*Male (n=18,723) Percent (SE)*	*Female (n=26,692) Percent (SE)*
Age[b]			
18–24	40.7 (1.2)	37.0 (1.7)	44.8 (1.6)
25–34	46.7 (0.8)	41.3 (1.2)	52.8 (1.1)
35–44	51.2 (0.7)	45.1 (1.1)	57.1 (1.0)
45–54	58.8 (0.8)	52.0 (1.2)	65.5 (1.0)
55–64	67.0 (0.9)	61.1 (1.3)	72.7 (1.0)
≥65	69.1 (0.7)	64.5 (1.1)	72.5 (0.8)
Race/ethnicity[a]			
Non-Hispanic white	59.0 (0.4)	52.6 (0.6)	65.2 (0.5)
Non-Hispanic black	46.2 (1.3)	42.6 (2.1)	49.0 (1.6)
Hispanic	43.9 (1.2)	38.1 (1.8)	50.0 (1.6)
Other	51.9 (1.8)	45.1 (2.5)	61.2 (2.6)[c]
Education[a]			
≤High school	49.2 (0.5)	42.5 (0.8)	55.4 (0.7)
>High school	61.7 (0.5)	55.7 (0.7)	67.6 (0.6)
Employment[a]			
Employed	52.9 (0.4)	47.2 (0.6)	60.3 (0.6)
Retired/student/unable to work/ unemployed	60.6 (0.5)	55.6 (0.9)	63.7 (0.6)
Marital status[a]			
Married	57.4 (0.4)	50.9 (0.7)	64.2 (0.6)
Previously married	60.9 (0.7)	52.8 (1.2)	65.2 (0.8)
Never married	46.1 (0.8)	44.1 (1.2)	48.7 (1.2)

NOTES: The 13 states were Alabama, Arizona, Delaware, Florida, Indiana, Iowa, Kentucky, Nebraska, North Dakota, Pennsylvania, Tennessee, Texas, and Wisconsin. All percents listed are weighted percentages.

[a]Chi-square test statistically significant at the p<0.01 level.

[b]p<0.001; Cochran-Mantel-Haenszel test

[c]p=0.131 for difference between non-Hispanics of another race and non-Hispanic whites

SE = standard error

Table 2. Percentages of selected characteristics by vitamin or supplement use, 2001

Health risk behavior	Vitamin or supplement users (n=25,652) Percent (SE)	Vitamin or supplement non-users (n=19,763) Percent (SE)	Pairwise p-value
Total			
All positive health risk behaviors[a]	24.3 (0.4)	16.3 (0.4)	<0.001
≥1 negative health risk behavior[b]	75.8 (0.4)	83.7 (0.4)	<0.001
Smoking			
Current	20.2 (0.4)	28.6 (0.5)	<0.001
Former or never	79.8 (0.4)	71.4 (0.5)	<0.001
BMI (kg/m^2)			
Underweight	2.0 (0.1)	2.1 (0.2)	0.510
Normal	41.4 (0.4)	36.6 (0.5)	<0.001
Overweight	36.9 (0.4)	36.7 (0.5)	0.843
Obese	19.8 (0.4)	24.6 (0.4)	<0.001
Physical activity			
No	21.6 (0.4)	31.8 (0.5)	<0.001
Yes	78.4 (0.4)	68.2 (0.5)	<0.001
Heavy drinking			
Yes	4.7 (0.2)	6.0 (0.3)	<0.001
No	95.3 (0.2)	94.0 (0.3)	<0.001
Binge drinker			
Yes	12.3 (0.3)	17.5 (0.4)	<0.001
No	87.7 (0.3)	82.5 (0.4)	<0.001

NOTE: All percents listed are weighted percentages.

[a]All positive health risk behaviors = non-smoker/former smoker, physically active, non–binge drinker, non-drinker/moderate drinker, *and* not overweight/obese

[b]≥1 negative health risk behavior = current smoker, physically inactive, binge drinker, heavy drinker, *or* overweight/obese

SE = standard error

a statistically significant association between V/S use and positive health risk behavior (adjusted OR=1.46; 95% CI 1.36, 1.57; $p<0.001$) (Table 3). Compared with adults aged 18–24 years, those aged 25–34 were 1.25 times as likely (95% CI 1.11, 1.41; $p<0.001$) to use V/S.

We also examined whether respondents who did not report specific pre-existing health conditions (nongestational diabetes, arthritis, chronic joint symptoms, asthma, hypertension, high blood cholesterol) were more likely to use V/S than those reporting one or more of these conditions. After adjusting for covariates, no significant association was found between the use of V/S and the absence of pre-existing health conditions (adjusted OR=0.93; 95% CI 0.87, 1.00; $p=0.052$) (Table 4). The findings were similar when we limited the analysis to respondents aged ≥55 years.

Table 5 shows the prevalence of V/S use by state, sex, and race/ethnicity. The prevalence of V/S use ranged from 46.7% in Kentucky to 63.8% in Florida. In each of the 13 states, V/S use was higher for women than men and higher for the non-Hispanic white population than for either the non-Hispanic black population or members of "other" race/ethnicity groups.

DISCUSSION

To our knowledge, this is the first study to use the BRFSS, a state-based rather than national survey, to assess the use of V/S among non-elderly adults and the elderly (aged ≥55 years) in 13 states. Because BRFSS is a unique source of data on risk behaviors and chronic health conditions for the states, our analysis included an assessment of the sociodemographic characteristics of V/S users, as well as the association of health behaviors and health condition with V/S use. The prevalence of V/S use in the 13 states was 56%. The results of our analysis are similar to those of other studies in relation to prevalence of V/S use by sex, age, race/ethnicity, and education.[11,16,23] We found that V/S use increased with age and was more common among women than men, more common among the non-Hispanic white population than people of all other race/ethnicity groups, and more common among respondents with higher educational attainment. V/S use also differed according to other sociodemographic factors such as marital status and employment status.

V/S use in our study was not significantly associated with perceived health status. Our data show that V/S use was similar among respondents who reported their health to be good, very good, or excellent and those who reported fair or poor health. In addition, our findings reveal that individuals who use V/S have positive health risk behaviors.

Inadequate intake or subtle deficiencies in certain vitamins may be risk factors for chronic diseases such as cardiovascular disease, cancer, and osteoporosis.[11] Some media advertisements claim that large doses of vitamins may prevent disease and slow the aging process.[24] Recent estimates suggest that the elderly are three or more times as likely to use V/S as they were in the 1980s.[25] Consumers need information on the possible risk of toxicity and the potential for drug/supplement interactions.[8] Our study did not show

Table 3. Association between vitamin or supplement use and health risk behavior, 13 states, 2001

Characteristic	*Age-adjusted[a] OR (95% CI)*	*Fully adjusted[a,b] OR (95% CI)*
Health risk behavior		
All positive health risk behaviors[c]	1.75 (1.63, 1.88)	1.46 (1.36, 1.57)
≥1 negative health risk behavior[d]	Referent	Referent
Age		
18–24	Referent	Referent
25–34	1.33 (1.18, 1.49)	1.25 (1.11, 1.41)
35–44	1.61 (1.44, 1.80)	1.51 (1.34, 1.69)
45–54	2.23 (1.99, 2.50)	2.04 (1.81, 2.29)
55–64	3.19 (2.82, 3.61)	3.00 (2.65, 3.40)
≥65	3.41 (3.04, 3.82)	3.25 (2.89, 3.65)
Sex		
Male	—	Referent
Female	—	1.54 (1.46, 1.63)
Race/ethnicity		
Non-Hispanic white	—	Referent
Non-Hispanic black	—	0.69 (0.61, 0.77)
Hispanic	—	0.71 (0.64, 0.78)
Other	—	0.84 (0.73, 0.98)
Education		
≤High school	—	Referent
>High school	—	1.70 (1.61, 1.81)

NOTE: The 13 states were Alabama, Arizona, Delaware, Florida, Indiana, Iowa, Kentucky, Nebraska, North Dakota, Pennsylvania, Tennessee, Texas, and Wisconsin.

[a] $p<0.001$ for all variables conditional on other variables in the model

[b] Adjusted for health risk behaviors, age, sex, race/ethnicity, and education

[c] All positive health risk behaviors = non-smoker/former smoker, physically active, non-binge drinker, non-drinker/moderate drinker, *and* not overweight/obese

[d] ≥1 negative health risk behavior = current smoker, physically inactive, binge drinker, heavy drinker, *or* overweight/obese

OR = odds ratio

CI = confidence interval

supplement use in large quantities; 83% of respondents to our survey who reported using V/S reported taking one or two pills per day of multivitamins or supplements.

Our analysis demonstrated that vitamin use increased with age. Usually, as people grow older, they are more concerned about health. However, the elderly are prone to circumstances that may prevent them from eating a balanced diet, especially those who are homebound or institutionalized.[24] Moreover, several age-related medical conditions may predispose individuals to dietary and vitamin deficiency, for which modest vitamin supplementation may be necessary.[24] The recent dietary reference intake recommendations identify several circumstances in which increased nutrient intake would be beneficial for certain population groups.[26] For example, many medicines commonly used by the elderly may deplete stored vitamins or interfere with absorption (e.g., aspirin use may cause depletion of vitamin B6, and diuretics may cause depletion of riboflavin, vitamin D, and folic acid).[24] In addition, 10% to 30% of individuals older than age 50 have atrophic gastritis, a condition that reduces the absorption of food-bound vitamin B-12. Therefore, the recommendation for this age group is to obtain vitamin B-12 from supplementation or fortified food.[27]

Our findings demonstrate that respondents who had positive health behaviors (those who were not current smokers, not heavy or binge drinkers, and physically active) were more likely to be V/S users than those who had negative health behaviors, and those who were not overweight were more likely to be V/S users than those who were overweight. Physically active people may try to use V/S to increase their physical performance or reduce the potentially negative consequences of physical activity, such as chronic fatigue or suppressed immune function.[28] Less V/S use among obese respondents may reflect an adverse pattern of health behaviors or may itself have a role in some observed health effects associated with obesity.[29] In addition, our analysis did not show an association between the use of V/S and the absence of specific chronic disease conditions (diabetes, arthritis, chronic joint symptoms, asthma, hypertension, and high blood cholesterol).

This study has several limitations. First, BRFSS is a telephone survey; therefore, coverage bias is likely because some U.S. residents do not have telephones. Second, the data presented are self-reported and may be subject to recall bias. Third, the study used data from 13 states and the findings may not be generalizable to the total U.S. population. Fourth, we could not account for all possible health conditions (e.g., cancer). Finally, it is not clear that a brief and simple

Table 4. Association between vitamin or supplement use and pre-existing health condition, 13 states, 2001

Characteristic	*Age-adjusted OR (95% CI)*	*Fully adjusted[a] OR (95% CI)*
Health condition[b]		
Absence of health conditions	0.96 (0.89, 1.03)[c]	0.93 (0.87, 1.00)[d]
≥1 health condition	Referent	Referent
Age[e]		
18–24	Referent	Referent
25–34	1.30 (1.11, 1.52)	1.20 (1.02, 1.41)
35–44	1.41 (1.21, 1.63)	1.30 (1.11, 1.51)
45–54	1.80 (1.54, 2.10)	1.67 (1.42, 1.95)
55–64	2.44 (2.08, 2.86)	2.32 (1.97, 2.73)
≥65	2.72 (2.33, 3.18)	2.61 (2.22, 3.06)
Sex[e]		
Male	—	Referent
Female	—	1.59 (1.49, 1.69)
Race/ethnicity[e]		
Non-Hispanic white	—	Referent
Non-Hispanic black	—	0.68 (0.60, 0.77)
Hispanic	—	0.68 (0.60, 0.76)
Other	—	0.86 (0.72, 1.02)
Education[e]		
≤High school	—	Referent
>High school	—	1.71 (1.61, 1.83)

NOTE: The 13 states were Alabama, Arizona, Delaware, Florida, Indiana, Iowa, Kentucky, Nebraska, North Dakota, Pennsylvania, Tennessee, Texas, and Wisconsin.

[a]Adjusted for health conditions, age, sex, race/ethnicity, and education

[b]Nongestational diabetes, doctor-diagnosed arthritis, chronic joint symptoms, asthma, hypertension, hypercholesterolemia

[c]$p=0.205$

[d]$p=0.052$

[e]$p<0.001$

OR = odds ratio

CI = confidence interval

Table 5. Prevalence of vitamin or supplement use by state, sex, and race/ethnicity, 13 states, 2001

		Sex		*Race/ethnicity*		
	Overall (N=45,415)	*Men (n=18,723)*	*Women (n=26,692)*	*Non-Hispanic white (n=37,635)*	*Non-Hispanic black (n=3,239)*	*Other[a] (n=4,541)*
State	*Percent (SE)*	*Percent (SE)*	*Percent (SE)*	*Percent (SE)*	*Percent (SE)*	*Percent (SE)*
Alabama	51.9 (1.2)	46.4 (1.8)	57.2 (1.4)	54.8 (1.3)	42.5 (2.6)	49.8 (5.1)
Arizona	59.0 (1.3)	55.3 (2.0)	62.7 (1.8)	65.0 (1.5)	36.3 (9.0)	44.1 (2.8)
Delaware	59.7 (1.2)	52.1 (1.8)	67.1 (1.4)	62.7 (1.3)	47.0 (11.4)	53.5 (4.5)
Florida	63.8 (0.9)	59.5 (1.4)	68.0 (1.1)	67.9 (1.0)	52.7 (3.3)	55.4 (2.1)
Indiana	58.2 (0.9)	50.4 (1.4)	65.7 (1.1)	59.2 (1.0)	53.5 (3.9)	50.2 (4.0)
Iowa	52.2 (1.1)	42.9 (1.6)	61.3 (1.4)	52.7 (1.1)	41.9 (12.0)	41.6 (5.6)
Kentucky	46.7 (0.9)	40.5 (1.4)	52.8 (1.1)	47.6 (0.9)	40.6 (3.8)	35.1 (5.0)
Nebraska	52.4 (1.0)	43.6 (1.6)	61.1 (1.3)	53.6 (1.1)	46.2 (9.6)	38.9 (4.0)
North Dakota	53.9 (1.1)	42.9 (1.7)	65.2 (1.5)	54.3 (1.2)	52.5 (16.0)	47.7 (4.8)
Pennsylvania	55.2 (1.0)	48.0 (1.5)	62.0 (1.3)	56.3 (1.1)	53.1 (4.0)	43.3 (4.4)
Tennessee	49.9 (1.2)	46.5 (1.9)	53.1 (1.4)	52.1 (1.3)	37.7 (3.2)	46.0 (7.0)
Texas	53.4 (0.8)	46.4 (1.2)	60.1 (1.0)	61.3 (1.0)	43.5 (2.6)	41.3 (1.5)
Wisconsin	56.4 (1.1)	49.2 (1.5)	63.5 (1.4)	57.9 (1.1)	38.7 (4.1)	45.2 (4.0)
Total	55.9 (0.3)	49.7 (0.5)	61.9 (0.4)	59.0 (0.4)	46.2 (1.3)	45.9 (1.0)

NOTE: All percents listed are weighted percentages.

[a]Includes the following categories: Hispanic; Asian, non-Hispanic; Native Hawaiian or Pacific Islander, non-Hispanic; American Indian or Alaska Native, non-Hispanic; multiracial, non-Hispanic; and other race, non-Hispanic

SE = standard error

questionnaire can adequately capture V/S use, especially considering the current explosion in the types of dietary supplements available to consumers. Some respondents may have understood supplements to include dietary supplements other than vitamins and minerals, such as amino acids, fiber, herbal products, and various other commonly available substances.[20]

This study provides a unique opportunity to examine the use of V/S in 13 states using data from a state-based survey. Since there is an increased use of V/S among the elderly, it is important to determine whether vitamin use may be protective in the delay and progression of chronic diseases, as well as to determine who should take vitamins. In addition, because V/S use is viewed as a healthy habit and unlikely to decrease in today's health-conscious and aging society, it is crucial to inform individuals that they should report the type, amount, and frequency of supplements they take when providing medical or diet histories to health care providers. Further research is also needed to assess dietary supplements' health impact.

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