

# Knowledge of Epilepsy and Familiarity with This Disorder in the U.S. Population: Results from the 2002 HealthStyles Survey

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**Summary:** *Purpose:* To assess perceptions of knowledge and experience with epilepsy and seizures in the U.S. population to develop communication campaigns to improve the public's understanding of epilepsy. In a national survey, focal points included the public's knowledge of the disorder, whether people know someone who has it, exposure to epilepsy-related information, and knowledge about how to respond to a person having a seizure.

*Methods:* The Epilepsy Program of the Centers for Disease Control and Prevention included nine items on an annual mail survey that targeted a representative sample of the U.S. population. Data were weighted to be representative of the U.S. population.  $\chi^2$  analyses were performed, and standardized residuals were used to examine the associations between responses and demographic variables.

*Results:* Responses were obtained from 4,397 persons. Despite the low prevalence of epilepsy, results indicate that about half of all persons have witnessed an epileptic seizure either in person or on television; about one third of all persons know someone with epilepsy, but relatively few are familiar with epilepsy, how to respond to a seizure, or with the Epilepsy Foundation.

*Conclusions:* In general, the public has relatively little knowledge about epilepsy. Educational campaigns that inform the public about this disorder and about seizures should work through community settings to improve the general public's understanding of epilepsy. **Key Words:** Epilepsy—Seizures—United States—Communication campaigns—Health education—Survey—Stigma—Epilepsy Foundation.

Because epilepsy affects all ages, both men and women, and all racial/ethnic groups, it is widely recognized in society, and yet it remains poorly understood. Cross-sectional studies have found that knowledge about epilepsy is scant, and attitudes toward the disorder can vary substantially by culture (1–9). Gajjar et al. (2) recently demonstrated that North Americans concurrently hold medical (i.e., neurological) and nonmedical (i.e., metaphysical) beliefs and attitudes about epilepsy. Such metaphysical beliefs (e.g., epilepsy is caused by good or evil supernatural spirits) have led to stigmatizing attitudes toward people with epilepsy in many societies throughout history (9,10). Although knowledge, attitudes, and beliefs about epilepsy have improved globally, misperceptions about the disorder still exist (1,2,11).

More than two million people in the United States have epilepsy (12); the incidence is greatest in children and in the elderly—groups particularly vulnerable to physical and psychosocial consequences of the disorder (11). The

primary symptom of epilepsy, seizures, can vary greatly in presentation and may or may not require medical assistance. Thus, it is important to measure the public's familiarity with the disorder and to determine whether Americans know how to respond when someone has a seizure. Accordingly, in 2002, the Centers for Disease Control and Prevention (CDC) included nine epilepsy-related items on HealthStyles, a national survey sponsored by Porter Novelli (Washington, DC), an international public relations firm. The four areas of interest were as follows: (a) belief in knowledge about the disorder; (b) whether people know someone with epilepsy; (c) exposure to epilepsy-related information; and (d) belief in knowledge about how to respond to a person having a seizure.

## METHODS

The Porter Novelli HealthStyles Survey, conducted annually since 1995, is the second of two nationally linked postal mail surveys administered to a random sample of adults (13). The first survey is a consumer survey in which data on media habits, product use, interests, and lifestyle are collected. The main sample ( $n = 5,500$ ) was stratified on region, household income, population density, age, and

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**TABLE 1.** *Epilepsy questions in 2002 HealthStyles Survey*

**Epilepsy or seizure disorder is a medical condition in which there are periods of abnormal electrical activity in the brain that causes seizures. Seizures can cause a temporary change in a person's physical behavior or awareness.**

**1. Please answer the following questions about your experience with epilepsy or seizure disorder.**

	<u>Yes</u>	<u>No</u>	<u>Not sure</u>
Do you currently know anyone with epilepsy or seizure disorder?			
Have you ever seen someone have a seizure on TV?			
Have you ever seen someone have a seizure in a real-life setting such as at school or work, or in a grocery store?			

**2. Have you read or heard anything about epilepsy in the media recently? ("X" ONE BOX)**

Yes ..... No ..... Not sure .....

**3. If you have heard anything about epilepsy during the past 12 months, where have you heard it? ("X" ALL THAT APPLY)**

Television.....	Brochures, flyers, pamphlets.....
Radio.....	Doctor, hospital, clinic, or other health provider
Internet.....	Not sure.....
Family or friends...	I have not heard anything.....

**4. Which of the following organizations are you familiar with? ("X" ALL THAT APPLY)**

The American Cancer Society...	Arthritis Foundation.....
The American Heart Association...	Multiple Sclerosis Foundation.....
Epilepsy Foundation.....	None of these.....

**5. In this section, there are a number of statements with which you may or may not agree. For each statement listed, please indicate whether you personally agree or disagree with it.**

	<u>STRONGLY DISAGREE</u>				<u>STRONGLY AGREE</u>
I am knowledgeable about epilepsy	1	2	3	4	5
I would know what to do if someone around me had a seizure	1	2	3	4	5

household size to create a nationally representative sample. A low-income/minority supplement (n = 1,500) was used to ensure adequate representation from these groups. In 2002, a total of 6,065 people completed the first wave (May–June 2002), yielding a response rate of 61%. The second wave (July–August 2002), sent to 6,027 households, consisted of an 18-page follow-up survey focusing on health issues, health attitudes, behaviors, conditions, and information-seeking behaviors. A number of items on the HealthStyles survey are the same as or similar to items on the Behavioral Risk Factor Surveillance System, a collaborative project of the CDC and U.S. states (13,14). In 2002, responses from the second wave were received from 4,397 participants, yielding a response rate of 73%. The sample of HealthStyles respondents is poststratified and weighted according to the 2000 U.S. Census benchmarks on age, sex, race/ethnicity, income, and household size to reduce potential bias due to underresponse in categories within these demographic variables. The sampling method for HealthStyles has been found to be comparable to random sample survey methods (13,15). Additionally, the HealthStyles survey has been found to have acceptable validity, and results are generally stable from year to year (13). For a full description of the survey, see Maibach et al. (16).

Nine epilepsy items similar in style to existing HealthStyles questions were developed by content experts at CDC and Porter Novelli. The nine epilepsy-related items

included on the 2002 survey are provided in Table 1. SPSS 11.0 was used for statistical analyses (17). Responses were examined for nonresponse (i.e., missing values). Missing data on epilepsy items were similar to those missing for other health conditions. Persons providing missing data on epilepsy items typically were men, aged 65 years or older. Missing data (i.e., item nonresponse) within cases were excluded from analyses.  $\chi^2$  tests were used to examine the associations between responses and demographic variables. Standardized residuals were examined to assess what categories were major contributors to statistically significant associations on the  $\chi^2$  test statistic.

**RESULTS**

A total of 2,282 (52%) respondents were women, 2,115 (48%) were men, 3,206 (72.9%) were white, 519 (11.8%) were black, 470 (10.7%) were Hispanic, 148 (3.4%) were Asian/Pacific Islander, and 54 (1.2%) identified themselves as another racial/ethnic category. Almost 31% had a high school degree or less; 37% completed some college; and ~32% were college graduates or had postgraduate training. The average age was the same for both men and women: 45.2 years. The majority (72.6%) of respondents were employed.

**Knowledge of epilepsy**

The survey indicated that about one fourth of adults consider themselves to be knowledgeable about epilepsy

**TABLE 2.** Level of respondents' beliefs in their knowledge of epilepsy and knowing what to do if a person had a seizure (HealthStyles, 2002)

	N	Agreement			Statistic
		Moderately or strongly agree %	Neither agree nor disagree %	Moderately or strongly disagree %	
<b>I am knowledgeable about epilepsy.</b>					
Sex					
Male	2,049	23.1	27.8	49.0	$\chi^2 = 7.6; df = 2; p = 0.02$
Female	2,260	26.8	26.8	46.5	
Age (yr)					
18–24	561	23.7	17.6	58.6	$\chi^2 = 63.5; df = 10; p < 0.001$
25–34	797	22.7	29.7	47.6	
35–44	953	22.7	27.3	50.1	
45–54	808	26.1	31.7	42.2	
55–64	505	25.9	29.7	44.4	
65+	683	30.2	25.3	44.5	
Education					
≤High school	1,131	19.7	25.2	55.1	$\chi^2 = 56.9; df = 6; p < 0.001$
Some college	1,393	25.3	28.0	46.7	
≥College grad.	1,198	30.9	27.9	41.2	
<b>I would know what to do if someone around me had a seizure.</b>					
Sex					
Male	2,057	35.9	23.1	41.0	NS
Female	2,268	38.3	22.2	39.5	
Age					
18–24	561	31.2	24.4	44.4	$\chi^2 = 58.4; df = 10; p < 0.001$
25–34	799	38.3	17.0	44.7	
35–44	953	39.5	22.6	38.0	
45–54	809	42.3	23.5	34.2	
55–64	509	37.9	26.7	35.4	
65+	691	31.0	23.7	45.3	
Education					
≤High school	1,145	28.4	22.8	48.8	$\chi^2 = 71.6; df = 6; p < 0.001$
Some college	1,395	41.8	23.2	35.1	
≥College grad.	1,198	40.7	22.5	36.7	

NS, not statistically significant.

(Table 2). Knowledge of epilepsy was not associated with race/ethnicity, but was associated with sex, age, and education. Women were more likely than men to consider themselves knowledgeable. Persons aged 65 years or older were more likely to agree with being knowledgeable about epilepsy, and those 18–24 the most likely to think themselves not knowledgeable. Although those with college degrees or secondary training were most likely to consider themselves knowledgeable about epilepsy, only about one third of this group considered themselves knowledgeable.

### Knowing how to respond to seizures

Only a minority of adults (somewhat more than one third) think they know what to do if someone has a seizure (Table 2). According to the survey, perceptions of knowing what to do are not associated with race/ethnicity but may depend on age and education. For not knowing what to do, rates are highest for young adults (18–34 years) and the oldest group (65+); for knowing what to do, the rate is highest for the 45–54 group. Those with only a high school degree or less were least likely to believe they know what to do if someone has a seizure, yet fewer than half of those

with a college degree or more reported they believed they knew what to do if a person had a seizure.

### Knowing someone with epilepsy

The survey indicated that almost a third of adults know someone with epilepsy (Table 3). Men are less likely than women to know someone, and the youngest (18–24 years) and oldest (65+ years) adults are less likely than other age groups to know someone; the 45–54 group is the most likely. Similarly men and youngest adults were most likely to be unsure about knowing someone with epilepsy. Estimates by race/ethnicity for knowing someone with epilepsy were 30% for whites and African Americans, 35% for Hispanics, and 22% for Asians or Pacific Islanders. Standardized residuals revealed that Asian/Pacific Islanders were more likely to be unsure about knowing someone with epilepsy

### Experience with seizures

HealthStyles indicated that about half of adults have witnessed a seizure in a real-life setting (such as at work, school, or in a store). Those aged 45–64 are more likely to have witnessed a seizure than are adults aged 44 years or

**TABLE 3.** Respondents' familiarity with epilepsy (know someone with disorder, real-life witness to seizure, saw seizure on TV) [HealthStyles, 2002]

	N	Yes %	No %	Not sure %	Statistic
Do you currently know anyone with epilepsy?					
Sex					
Male	2,098	28.1	65.9	6.0	$\chi^2 = 19.5; df = 2, p < 0.01$
Female	2,263	32.7	63.5	3.8	
Age (yr)					
18-24	580	25.2	67.6	7.2	$\chi^2 = 37.8; df = 10; p < 0.1$
25-34	802	32.8	62.7	4.5	
35-44	966	31.4	65.7	2.9	
45-54	810	34.4	60.1	5.4	
55-64	507	31.4	64.1	4.5	
65+	695	25.9	68.5	5.6	
Have you ever seen anyone have a seizure in a real life setting such as work, school, or in a store?					
Sex					
Male	2,097	51.6	45.0	3.4	$\chi^2 = 8.6; df = 2; p < 0.001$
Female	2,259	51.4	46.6	2.0	
Age (yr)					
18-24	574	44.1	51.7	4.2	$\chi^2 = 48.7; df = 10; p < 0.001$
25-34	801	50.3	45.7	4.0	
35-44	966	50.2	47.3	2.5	
45-54	811	58.1	40.0	2.1	
55-64	509	56.2	41.5	2.4	
65+	696	49.9	49.0	1.1	
Have you ever seen someone have a seizure on TV?					
Sex					
Male	2,096	56.2	36.8	7.1	NS
Female	2,263	58.2	36.1	5.8	
Age (yr)					
18-24	580	64.5	28.6	6.9	$\chi^2 = 236.8; df = 10; p < 0.001$
25-34	802	67.2	27.8	5.0	
35-44	964	61.4	33.0	5.6	
45-54	810	62.1	32.0	5.9	
55-64	507	49.3	42.6	8.1	
65+	696	33.8	58.2	8.0	

NS, not statistically significant.

younger. By race, Asian/Pacific Islanders and Hispanics were most likely to be unsure about witnessing a seizure in a real-life setting.

The survey indicated that more than half of both men and women have seen a seizure on television (Table 3), with younger adults (18-34) more likely than others to have seen one there. By race, African Americans are more likely than other groups to have seen a seizure on TV.

We also examined knowledge of epilepsy and knowing what to do if someone is having a seizure by whether a person currently knew someone with epilepsy (Table 4). Of those who knew someone, fewer than half considered themselves knowledgeable about the disorder and just over half thought they knew what to do if someone had a seizure.

The survey indicated that most adults (estimate: 82.5%, data not shown) have not read or heard anything about epilepsy in the past year. Of those who have read or heard something about epilepsy, the most likely source is television (12.7%) or family or friends (10.4%) rather than

**TABLE 4.** Respondents' familiarity with epilepsy and knowledge of what to do by knowledge of someone with epilepsy (HealthStyles, 2002)

	Percentage			Statistic
	Yes	No	Not sure	
I am knowledgeable about epilepsy				
Moderately or strongly agree	40.7	17.7	24.4	$\chi^2 = 283.8; df = 4; p < 0.01$
Neither agree nor disagree	27.0	27.3	27.9	
Moderately or strongly disagree	32.3	55.0	47.8	
I would know what to do if someone around me had a seizure				
Moderately or strongly agree	53.7	29.9	28.7	$\chi^2 = 237.4; df = 4; p < 0.01$
Neither agree nor disagree	20.2	23.7	23.3	
Moderately or strongly disagree	26.1	46.3	48.0	

the radio, Internet, or some other medium. Finally, the survey indicated that most adults are familiar with non-profit organizations such as the American Cancer Society and the American Heart Association (>90% for both), and about one fourth (24%) are familiar with the Epilepsy Foundation.

### DISCUSSION

The purpose of this study was to use a representative sample to assess the public's perception of knowledge and experience with epilepsy and seizures. About half of all adults have witnessed an epileptic seizure in a real-life setting; and slightly more have witnessed a seizure on television. This is consistent with other studies that have found that at least half of all persons in a representative sample have seen a seizure (1,3). Our study also indicates that about one fourth of American adults believe themselves to be knowledgeable about epilepsy. This low level of knowledge of epilepsy is consistent with results from other population-based studies that have examined public perception of knowledge of chronic disorders such as stroke (18), asthma (19), and diabetes (20). Our study indicates that ~30% of American adults know someone with epilepsy. In contrast, other studies with representative samples have found that at least half of all adults know someone with this disorder (1,3). More surprising was our finding that of people who currently know someone with epilepsy, only ~40% are knowledgeable about the disorder, and only half of them agree with knowing what to do if a person around them has a seizure. Conway et al. (19) found that participants having family members with diagnosed asthma scored no better when asked general knowledge questions about asthma or its signs and triggers than did those without a family member with asthma. These authors concluded that the participants' low level

of knowledge was unlikely to support adherence with the challenging aspects of asthma care. Although our study did not assess specific knowledge items about epilepsy, the low level of perceived knowledge among our study respondents who know someone with epilepsy might be attributable to the general lack of education the public has about epilepsy, or it may be the fact that many people with epilepsy have not educated their family, friends, or colleagues about the disorder (10,21). In this study, although educational level was associated with both perceptions of knowledge of epilepsy and how to respond to seizures, fewer than half of even the most educated perceived themselves knowledgeable about epilepsy or about appropriate seizure response. Our findings also indicate that only about a fourth of all persons are aware of the Epilepsy Foundation, an important source of information for the general public.

The attitudes of society toward people with epilepsy are extremely important (10). Such attitudes may be based primarily on knowledge or affect (22). Our findings indicate that most people hear about epilepsy either through family or friends or on television. Feelings toward seizures are typically and understandably negative: most people report being fearful of seeing a seizure (CDC, unpublished data). Some seizures, however, may not be apparent to onlookers, and these events would not be expected to elicit a negative response. Throughout history and in many cultures, however, the public has been exposed to epilepsy in a more frightening form through paintings (9), literature (23), and modern communication mediums such as television (24). These mediums typically display tonic-clonic seizures that result in distorted and stereotypical representations of epilepsy. These exaggerated media representations can adversely influence cognitive responses, which in turn can adversely affect social attitudes. In this study, we found that at least half of all respondents have seen a seizure on television, and unsurprisingly, younger adults were more likely to have seen a seizure on television. A recent representation of epilepsy on a popular U.S. television program included a scenario in which a person who had a seizure while driving a bus caused an accident, leading to the injury of several passengers (24). This scenario is consistent with the sensational representation of epilepsy in contemporary fiction (19).

In HealthStyles, men aged 65 years or older were those most likely to skip questions about familiarity with epilepsy and seizures. Older men might have had the least education about epilepsy, and thus cannot answer questions about epilepsy, or they might have been exposed to more stigma associated with epilepsy than younger age cohorts, and thus might be uncomfortable answering questions on epilepsy.

Our results regarding the lack of familiarity with epilepsy and seizures among the youngest adults are consistent with the study of Austin et al. (25) of adoles-

cents (ages 13–18) in the general population; these researchers found a general lack of familiarity with epilepsy and knowledge about it, as well as perceptions that reflect stigma.

Although statistically significant, the small differences we found between and within groups (i.e., sex, race/ethnicity, age, and education) should be examined further. These preliminary results, however, suggest that care should be taken to design culturally appropriate educational information for specific groups. Nonetheless, young adults as well as older age groups would particularly benefit from increased knowledge and awareness of epilepsy because they are likely to have frequent contact with children and the elderly, the groups with greatest incidence of epilepsy. Finally, because more than half of all persons have seen a seizure in a “real-life setting” or on television, information about epilepsy should be made available in community settings such as work sites, schools, churches, and stores, to improve the general public’s knowledge of epilepsy.

### Limitations

One limitation of this study is that the analysis was based on unvalidated self-reports rather than direct measures of knowledge. Knowing what to do for a person having a seizure versus believing one knows what to do for a person having a seizure are different, especially in epilepsy, in which counterproductive practices are common (e.g., incorrect action of putting something in a person’s mouth to prevent tongue swallowing). This study focused on the latter, so we may have overestimated knowledge of epilepsy and how to respond to seizures. In addition, we could not make inferences about the public’s attitudes or beliefs about epilepsy. Increasing public awareness and knowledge about epilepsy is a priority area for the CDC Epilepsy Program. Thus, an additional study funded by the CDC includes the development of a valid and reliable instrument to measure attitudes and beliefs about epilepsy in U.S. adults.

### CONCLUSION

In the United States, epilepsy remains a mystery to a large segment of the population. A parallel might be drawn with mental illness (with which epilepsy has often been confused); the public has heard quite a bit about it, and many people have been exposed, yet few know how to interact with those with mental illness. So too, many have been exposed to someone with epilepsy, but levels of knowledge about the disorder are far below what they should be. Similarly, although information about first aid for seizures is available to the public (22), knowing what one should do when witnessing a seizure is not the rule in the population. Our results indicate that the general population would benefit from increased knowledge about

epilepsy. Ideally, educational campaigns will improve the situation; targeting those who are most likely to encounter someone with epilepsy may be particularly fruitful.

The present study adds to the literature on epilepsy by assessing the perceptions of knowledge of epilepsy, familiarity with seizures, and experience with people with epilepsy in a representative sample of U.S. adults to identify groups that would benefit from educational campaigns to improve their knowledge of the disorder.

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## REFERENCES

1. Caviness WF, Gallup GH. A survey of public attitudes toward epilepsy in 1979 with an indication of trends over the past thirty years. *Epilepsia* 1980;21:509–18.
2. Gajjar M, Geva E, Humphries T, et al. A new scale to assess culture-specific beliefs and attitudes about epilepsy. *Epilepsy Behav* 2000;1:235–55.
3. Mirmics Z, Czizora G, Zavec T, et al. Changes in public attitudes towards epilepsy in Hungary: results of surveys conducted in 1994 and 2000. *Epilepsia* 2001;42:86–93.
4. Fong CY, Hung A. Public awareness, attitude, and understanding of epilepsy in Hong Kong: Special Administrative Region, China. *Epilepsia* 2002;43:311–6.
5. Lee TM, Yang SH, Ng Pk. Epilepsy in Chinese culture. *Am J Chin Med* 2001;29:181–4.
6. Aziz A, Akhtar SW, Hasan KZ. Epilepsy in Pakistan: stigma and psychosocial problems: a population-based epidemiologic study. *Epilepsia* 1997;38:1069–73.
7. Jilek-Aall L. Morbus sacer in Africa: some religious aspects of epilepsy in traditional cultures. *Epilepsia* 1999;140:382–6.
8. Carod FJ, Vazquez-Cabrera C. Magical thinking and epilepsy in traditional indigenous medicine. *Rev Neurol* 1998;26:1064–8.
9. Fatovic-Ferencic S, Durrigi MA. The sacred disease and its patron saint. *Epilepsy Behav* 2001;2:370–3.
10. De Boer HM. Epilepsy and society. *Epilepsia* 1995;36(suppl 1):S8–11.
11. Devinsky O. *Epilepsy patient and family guide*. 2nd ed. Philadelphia: FA Davis, 2002.
12. Hauser WAJ, Annegers JF, Rocca WA. Descriptive epidemiology of epilepsy: contributions of population-based studies from Rochester, Minnesota. *Mayo Clin Proc* 1996;71:576–86.
13. Pollard WE. Use of consumer panel survey data for public health communication planning: an evaluation of survey results. In: *Proceedings of the Section on Health Policy Statistics*. Alexandria, VA: American Statistical Association, 2002:2720–4.
14. Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System. Atlanta GA. Available from: <http://www.cdc.gov/brfss> (June 2003).
15. CDC. HealthStyles 2001 Resource Kit. Feb. 28, 2002. Atlanta, GA: CDC Office of Communication Report, 2002.
16. Maibach E, Maxfield A, Ladin K, et al. Translating health psychology into effective health communication: the American Health Styles Audience Segmentation Project. *J Health Psych* 1996;1:261–77.
17. SPSS 11.0. *Statistical package for the social sciences V4.0*. Chicago: SPSS, 1998.
18. Pancioli A, Broderick J, Kothari R, et al. Public perception of stroke warning signs and knowledge of potential risk factors. *JAMA* 1998;279:1288–92.
19. Conway T, Hu TC, Bennett S, et al. A pilot study describing local residents' perceptions of asthma and knowledge of asthma care in selected Chicago communities. *Chest* 1999;116:229S–34.
20. Michielutte R, Diseker RA, Stafford CL, et al. Knowledge of diabetes and glaucoma in a rural North Carolina community. *J Comm Health* 1984;9:269–84.
21. Pedley TA. Epilepsy and education. *Epilepsia* 1995;36(suppl 1):S18–22.
22. Ajzen I. Nature and operation of attitudes. *Annu Rev Psychol* 2001;52:27–58.
23. Wolf P. Epilepsy in contemporary fiction: fates of patients. *Can J Neurol Sci* 2000;27:166–72.
24. NBC. "Lockdown." E.R. May 16, 2002. Season 8, Episode 22.
25. Austin JK, Shafer PO, Deering JB. Epilepsy familiarity, knowledge, and perceptions of stigma: a report from a survey of adolescents in the general population. *Epilepsy Behav* 2002;3:368–75.
26. Epilepsy Foundation. (March 26, 2003): First aid for seizures. *Epilepsy Found Answer Place* [On-line]. Available: <http://www.epilepsyfoundation.org/answerplace/getsection.cfm?keyname=firstaid>