



Current Food Safety Knowledge of Registered Dietitians

LYDIA C. MEDEIROS^{1*} and JANET BUFFER²

^{1*}The Ohio State University, Dept. of Human Nutrition, 1787 Neil Ave., Columbus, OH 43210–1295, USA;

²Kroger Co., 2175 Park Lake Drive, Atlanta, GA 30345, USA

SUMMARY

The objectives were to assess dietitians' current food safety knowledge by measuring general knowledge, pathogen knowledge, food safety training, and information channels used by dietitians to locate food safety information, and to compare differences in current knowledge in relation to differences in food safety teaching behavior with patients. A non-probabilistic sample of registered dietitians ($n = 327$) in the United States was asked to complete a web-delivered survey. The study used a descriptive, cross-sectional design. Non-parametric data between two teaching groups were analyzed by Chi-square tests. Parametric data between teaching groups were compared by Student's *t*-tests. Dietitians were moderately knowledgeable of general food safety principles, showing no differences between teaching groups ($P = 0.09$), but pathogen knowledge differed between those who taught and those who did not teach patients food safety ($P = 0.02$ to 0.002). Teaching was more frequently reported by dietitians who had participated in post-undergraduate food safety training ($P < 0.001$). The Internet was reported to be a popular and frequently utilized source of food safety information, but Registered Dietitians (RD) are apparently seeking basic food safety information and information that is not in great depth to fully understand the implications of pathogen exposure in susceptible patient populations. This study has implications to dietetic undergraduate and continuing education programs.

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*Author for correspondence: Phone: +1 614.292.2699; Fax: +1 614.292.8880
E-mail: Medeiros.l@osu.edu

INTRODUCTION

Registered dietitians (RDs) have been identified by immune-compromised patients to be a preferred and credible source of food safety information (4, 7, 10, 13). Dietetic undergraduate education required for preparation as an RD in the United States is a dietitian's primary source of basic food safety knowledge, and individual post-graduate continuing education plans may include more advanced preparation if the RD perceives a personal or employment need for additional food safety training (2, 3).

Current knowledge may influence the behavior of a person who relies on that knowledge. Griffin et al. (8) theorized that motivation to seek risk communication information, such as food safety information needed to prepare for patient instruction, is a function of a person's current knowledge and confidence that he or she has sufficient knowledge to act with regard to a desirable behavior. We have previously reported that dietitians who care for pregnant women, the elderly, or other immune-compromised patients demonstrated that they have basic food safety knowledge, although in some cases it was incomplete or incorrect (5). These findings led us to investigate whether knowledge of food safety influences a dietitian's teaching behavior with patients, regardless of whether or not the patient expects this information to be provided by the dietitian who is part of the health care team (4, 7, 10, 13).

The objectives of this study were to assess the current food safety knowledge of RDs by measuring general knowledge, pathogen knowledge, food safety training, and information channels used by dietitians to locate food safety information, and to compare differences in current knowledge in relation to food safety teaching behavior with patients. The following questions were asked: Are RDs generally knowledgeable about food safety and foodborne pathogens? Are RDs seeking food safety training and using primary information channels to prepare themselves for patient food safety instruction? Does current food safety knowledge differ by patient teaching behavior?

MATERIALS AND METHODS

Subjects and survey

Subject inclusion criteria and recruitment methods have been previously described (6). In brief, RDs in the

United States ($n = 327$) were recruited through live links in messages to professional listservs and on web sites that invited RDs to participate in a 152 item web-delivered survey. The web site for the online survey was developed in-house using SelectSurvey.NET (ClassApps, Release 2.0, Overland Park, KS), with numerical data recorded in a comma delimited text file. Items could not be skipped because the survey would not advance until the respondent either answered the item or checked a box stating that they voluntarily did not answer the item. If the respondent proceeded to the end of the survey and clicked the submit button, the survey was defined as complete. Items voluntarily not answered were treated as missing data. Details of how the survey was conceptualized and tested have also been published (6). Survey items were adapted from previous studies (9, 14). The conceptual model for the study was based on the Risk Information Seeking and Processing (RISP) model (8). The RISP model construct of "current knowledge" is reported in the present study. Respondents to the online survey agreed to a waiver of written consent before they were allowed to enter the survey web site and enter data. The protocol was approved by the Institutional Review Board for Social and Behavioral Human Subjects' Research (Protocol #2008B0345). Respondents were financially compensated.

Dependent variable

A binary dependent variable was constructed from a survey item probing current food safety teaching behavior of RDs who counseled patients. Data were divided into a Do Not Teach group ($n = 159, 48.6\%$), composed of dietitians who reported they were not currently teaching food safety to patients, and a comparison group (Teach group, $n = 168, 51.4\%$) of dietitians who responded that they were currently providing patient food safety education.

Current knowledge

Knowledge of food safety was measured as general knowledge (17 items), self-reported awareness of four major foodborne illness-causing pathogens (four items), and self-reported understanding of the same four pathogens (four items). All knowledge items in the

survey were tested for face validity with five key informants who were registered dietitians and pilot tested with 16 registered dietitians to beta test the survey site and to obtain data for item analysis (6). General knowledge items were adapted from validated items from a previous study (14), with the exception of one item about microbial safety of bagged greens, which had been modified based on subsequent research (11). Items measuring general knowledge were scored as correct (code = 1) or incorrect (code = 0) (14) and were assessed for item difficulty and item discrimination (15). Ten items remained after analysis and were checked for internal consistency using Cronbach's alpha; two additional items were deleted. The eight remaining items had low internal consistency ($\alpha = 0.51$). Pathogen awareness questions asked respondents to rate how much they had heard (self-reported awareness) about each of four foodborne illness-causing pathogens (Heard nothing = 1, Heard a lot = 4, $\alpha = 0.79$). Respondents were also asked to rate their understanding (self-reported knowledge) of the same four pathogens (Very low = 1, Very high = 5 ($\alpha = 0.83$)).

Food safety training and information channels

Type of training received as a source of food safety information was assessed in a multi-choice survey item (No = 0, Yes = 1). Also, a multi-choice survey item assessed the array of food safety information channels respondents utilized (No = 0, Yes = 1). Information source and type of training were compared between teaching groups. Additionally, open-ended items asked respondents to name up to three journals and three websites used to locate food safety information. A categorical taxonomy was developed to organize responses. Data were expressed as percent (%) of total mentions.

Data analysis

This was a cross-sectional, descriptive study of food safety knowledge, training and information channels used by a non-probabilistic sample of RDs who either taught or did not teach patients about food safety. The Statistical Package for the Social Sciences software (SPSS Version 19.0, SPSS Inc., Chicago IL, 2011) was used for data analysis. Descriptive statistics were calculated for

TABLE 1. Descriptive characteristics of survey respondents

Characteristic ^a	Do not teach ^b	Teach ^c
	n (%)	n (%)
Gender		
Male	4 (44.4)	5 (55.6)
Female	155 (48.9)	162 (51.1)
Self-identified racial/ethnic group		
White/Non-Hispanic	147 (49.5)	150 (50.5)
All others	9 (39.1)	14 (60.9)
Age		
18–29 years ***	62 (71.3)	25 (28.7)
30–44 years	53 (44.2)	67 (55.8)
45 years and older ***	44 (36.7)	76 (63.3)
Self-reported education level completed		
College graduate	71 (50.4)	70 (49.6)
Postgraduate or professional	87 (47.0)	98 (53.0)
Self-reported income category ^d		
\$64K or less	51 (56.0)	40 (44.0)
\$65K – \$99K	45 (43.7)	58 (56.3)
\$100K or more	46 (49.5)	47 (50.5)
US census region ^e		
West	41 (45.1)	50 (54.9)
Midwest	31 (48.4)	33 (51.6)
Northeast	58 (56.3)	45 (43.7)
South	25 (42.4)	34 (57.6)

^aFor each characteristic and within each row, number of respondents (n) and percent of total within the characteristic level (%)

^bRespondents who stated they do not currently teach nor do they intend to teach patients about food safety (n = 159)

^cRespondents who stated they are currently teaching patients about food safety (n = 168)

^dK = thousands of United States Dollars (\$)

^eRegions defined according to US Census categories

*** Difference between teaching groups, $P < 0.001$

all variables. Non-parametric variables were analyzed for differences by Pearson Chi-Square or by Student's *t*-tests for parametric variables.

RESULTS

A total of 327 completed surveys were obtained. An additional 20 attempted but not submitted surveys were eliminated from data analysis. The demographic characteristics of the survey respondents are consistent with the description of the population of RDs in

the United States (18) as reported previously (Table 1) (6). No differences were seen between the two teaching groups for most of the demographic characteristics, except for age. Younger dietitians (age 18–29 years) were less likely to teach food safety to patients ($P < 0.001$), and older dietitians (45 years and older) were more likely to teach ($P < 0.001$), compared with other age groups.

General food safety knowledge

General food safety knowledge was similar between the two teaching groups

($P = 0.09$) (Table 2). Knowledge scores were moderately good (defined as between 50% and 75% correct), most likely reflecting previous preparation associated with becoming a registered dietitian. It was observed that dietitians in both groups were knowledgeable of food safety facts about cooking hamburgers adequately; eating raw alfalfa sprouts, cold hot dogs, or cheeses made from unpasteurized milk; and washing fruit skins before peeling if cross contamination by a utensil is possible and if the food is likely to be stored before consumption (Table

TABLE 2. Survey respondents' correct responses to general food safety knowledge items and overall knowledge score

Survey item (correct response) ^a	Do not teach ^b	Teach ^c	P ^d
	n (%)	n (%)	
If you have diarrhea, it's okay to prepare food for others in the family if you wash your hands first. (disagree is correct)	73 (46.8)	83 (49.7)	0.60
When you can't see any pink color inside a cooked hamburger patty you know all of the harmful germs have been killed and the hamburger is safe to eat. (disagree is correct)	127 (79.9)	148 (88.1)	0.04
Head lettuce is more likely to have high microbial counts than pre-washed (bagged) lettuce. (disagree is correct)	82 (51.6)	97 (58.4)	0.21
It is okay for people in high-risk groups to eat alfalfa or other sprouts. (disagree is correct)	126 (79.2)	139 (82.7)	0.42
It is okay for people in high-risk groups to eat cold (straight out of the package) hot dogs. (disagree is correct)	126 (79.2)	145 (86.8)	0.07
It is okay for people in high-risk groups to eat soft cheese made from unpasteurized milk, like Brie or Camembert. (disagree is correct)	138 (86.8)	145 (86.3)	0.90
It is okay for people in high-risk groups to drink juices and smoothies made with raw fruits and vegetables. (disagree is correct)	60 (38.5)	61 (36.5)	0.72
It is okay for people in high-risk groups to eat a banana without washing the skin first. (agree is correct)	129 (81.1)	144 (86.2)	0.21
	Mean (SEM) ^e	Mean (SEM) ^e	P ^f
Overall knowledge score ^g	5.4 (0.13)	5.7 (0.13)	0.09

^aResponse options – Avoid, Okay to eat, Not sure; correct response code = 1, incorrect response and not sure code = 0

^bRespondents who stated they do not currently teach nor do they intend to teach patients about food safety (n = 159)

^cRespondents who stated they are currently teaching patients about food safety (n = 168)

^dP = probability, Pearson's Chi-Square

^eSEM = standard error of mean

^fP = probability, Independent samples Student's t-test

^gSum of correct responses, 0 = minimum score, 8 = maximum score

2). Food safety facts that were most likely to be incorrectly answered were about preparing food while sick with diarrhea, the microbiological safety of bagged lettuce, and the safety of beverages made with raw fruit or vegetable.

Pathogen self-reported awareness and knowledge

Respondents were asked to assess their awareness (Table 3, $\alpha = 0.78$) and

knowledge of specific foodborne illness-causing pathogens (Table 4, $\alpha = 0.81$). Dietitians were most aware of and best understood facts related to *Salmonella* spp. and *E. coli* O157:H7. Respondents had the least awareness and knowledge of *Campylobacter jejuni*. Those who were currently teaching their patients about food safety were more aware ($P < 0.001$) and better understood ($P < 0.001$) each of the four pathogens asked about in the survey than dietitians who are not currently teaching food safety (Table 5).

Food safety training and information channels

A majority of dietitians (n = 285, 87%) reported that they had received specific food safety training (Table 6), and overall a difference between teaching groups was not found ($P = 0.74$). No differences were seen between teaching groups with regard to training received through educational curriculum courses ($P = 0.87$) or employee food service

FIGURE 1. Food safety information channels utilized by registered dietitians by their current teaching status of food safety information for patients. Significant differences were found for Web sites ($P = 0.007$) and for professional training ($P = 0.014$).

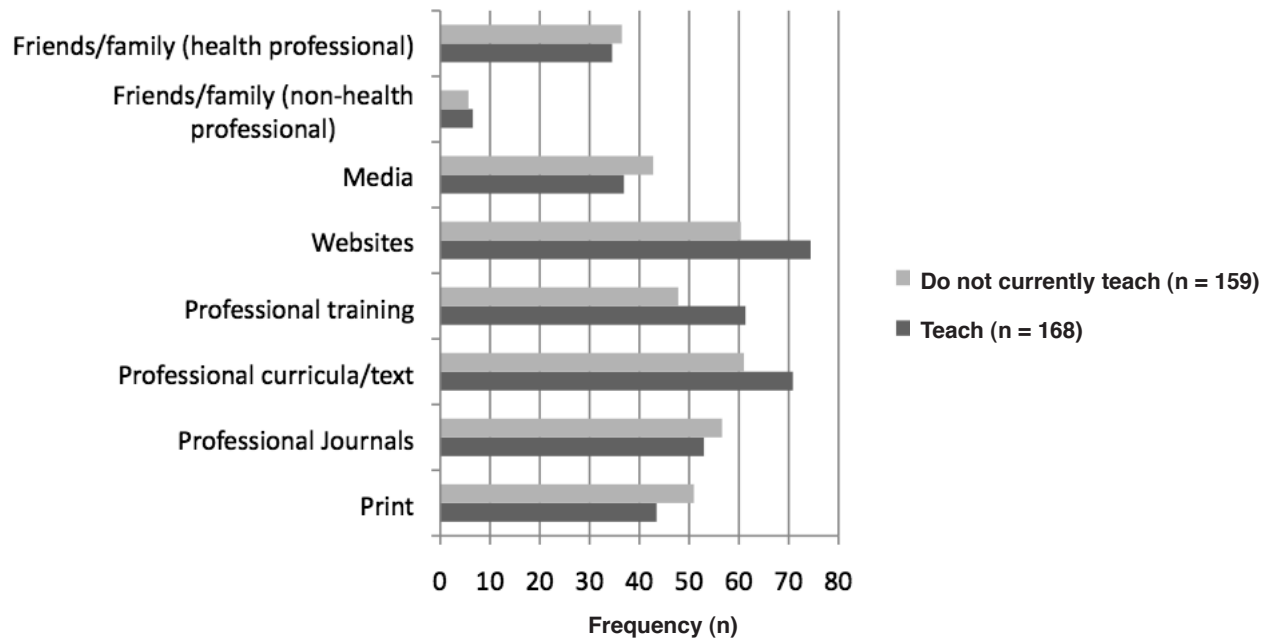


TABLE 3. Pathogen self-reported awareness of survey respondents

Survey item	Group	Response choice n (%)				P ^a
		Nothing	A little	Quite a bit	A lot	
How much have you heard about the bacteria <i>Salmonella</i> ?	Do not teach ^b	0	24 (15.1)	96 (60.4)	39 (24.5)	0.011
	Teach ^c	0	18 (10.7)	83 (49.4)	67 (39.9)	
How much have you heard about the bacteria <i>E. coli</i> O157:H7?	Do not teach ^b	1 (0.6)	32 (20.1)	91 (57.2)	35 (22.0)	0.017
	Teach ^c	0	27 (16.1)	78 (46.4)	63 (37.5)	
How much have you heard about the bacteria <i>Campylobacter jejuni</i> ?	Do not teach ^b	26 (16.4)	89 (56.0)	41 (25.8)	3 (1.9)	0.001
	Teach ^c	13 (7.7)	90 (53.6)	45 (26.8)	20 (11.9)	
How much have you heard about the bacteria <i>Listeria monocytogenes</i> ?	Do not teach ^b	7 (4.4)	73 (45.9)	63 (39.6)	16 (10.1)	0.041
	Teach ^c	2 (1.2)	67 (39.9)	67 (39.9)	32 (19.0)	

^aP = probability, Pearson Chi-Square

^bRespondents who stated they do not currently teach nor do they intend to teach patients about food safety (n = 159)

^cRespondents who stated they are currently teaching patients about food safety (n = 168)

training ($P = 0.81$), the two sources of training that are typical and consistent for dietetic education and competencies required for registration as a dietitian in the United States (2). Of those who claimed specific food safety training, differences between teaching groups were

noted for continuing education courses ($P < 0.001$) and conferences or workshops ($P < 0.001$).

Respondents were asked about eight different channels that they might consult for food safety information (Fig. 1). For this group of health professionals,

friends and family were the least utilized. Information channels such as websites, professional curricula, professional training programs and professional journals were the most frequently cited. Those who currently teach patients about food safety cited websites ($P = 0.007$) and pro-

TABLE 4. Pathogen self-reported knowledge of survey respondents

Survey item	Group	Response choice n (%)					P ^a
		Very low	Low	Moderate	High	Very high	
How would you rate your understanding of the bacteria <i>Salmonella</i> ?	Do not teach ^b	0	10 (6.3)	118 (74.2)	29 (18.2)	2 (1.3)	0.021
	Teach ^c	0	11 (6.5)	102 (60.7)	45 (26.8)	10 (6.0)	
How would you rate your understanding of the bacteria <i>E. coli</i> O157:H7?	Do not teach ^b	2 (1.3)	20 (12.6)	109 (68.6)	26 (16.4)	2 (1.3)	0.002
	Teach ^c	0	18 (0.7)	94 (56.0)	39 (23.2)	17 (10.1)	
How would you rate your understanding of the bacteria <i>Campylobacter jejuni</i> ?	Do not teach ^b	31 (19.5)	72 (45.3)	52 (32.7)	4 (2.5)	0	0.007
	Teach ^c	26 (15.5)	67 (39.9)	53 (31.5)	14 (8.3)	8 (4.8)	
How would you rate your understanding of the bacteria <i>Listeria monocytogenes</i> ?	Do not teach ^b	11 (6.9)	45 (28.3)	90 (56.6)	12 (7.5)	1 (0.6)	0.004
	Teach ^c	9 (5.4)	41 (24.4)	80 (47.6)	25 (14.9)	13 (7.7)	

^aP = probability, Pearson Chi-Square

^bRespondents who stated they do not currently teach nor do they intend to teach patients about food safety (n = 159)

^cRespondents who stated they are currently teaching patients about food safety (n = 168)

fessional training ($P = 0.014$) more often than those who are not currently teaching food safety. In addition, respondents were asked to name the top three professional journals and the top three websites they use as sources of food safety information. The responses were qualitatively sorted into categories, and mentions are reported in Table 7.

DISCUSSION

The registered dietitian requires an undergraduate education from an institution that is accredited by the Academy of Nutrition and Dietetics, Commission on Dietetic Registration, and food safety is a required educational competency for all didactic programs (3). Furthermore, RDs are required to complete continuing education in topics pertinent to their employment or in areas in which the individual wishes to have additional information and training. Dietitians in direct client care encounter patients who are susceptible to foodborne illnesses and ethically must maintain competency in food safety (2). We designed the hypotheses of this study to test whether the professional standards with regard to food safety knowledge were being met in

a sample of RDs engaged in clinical practice. We expected to find that RDs are knowledgeable of food safety, that they seek training in food safety, and that they use primary information channels for state-of-the-art food safety information. We further expected that current knowledge of RDs would not differ by teaching behavior.

Demographic characteristics

Although the use of a non-probabilistic sample is a limitation of this study, the respondents to this survey had demographic characteristics that were consistent with those of RDs in the United States (18), suggesting that study findings can be generalized to the population of RDs nationwide. Of interest were characteristics that distinguished those who are currently teaching food safety to their patients from those who are not. Age differences between these two groups were noted (Table 1, $P < 0.001$). Older dietitians were more likely to teach food safety than were younger dietitians. Two explanations are possible. First, older dietitians may have longer and perhaps more varied employment experiences, and could have been more aware

of the long-term health consequences of foodborne illness and information needs of critically ill patients. Second, older dietitians may have greater confidence in their knowledge of food safety and therefore be more comfortable with teaching the topic to patients. Younger dietitians may have been more involved in teaching medical nutrition therapy to patients than in teaching a subject usually associated with food service management (3), and thus less likely to focus their continuing education plans in this direction. These possible explanations suggest that food safety education and continuing education curricula may need to be reviewed to ensure that dietitians have sufficient knowledge to meet the health needs of critically ill and susceptible patients under their care.

General food safety knowledge

Dietitians were asked to respond to a series of items to measure the accuracy of their general food safety knowledge. Respondents in both groups had similar but moderately correct knowledge of food safety (Table 2). In the development of the survey, items were eliminated if they were too easy (item discrimination)

TABLE 5. Pathogen self-reported awareness and knowledge scores of survey respondents

Score ^a	Do not teach ^b	Teach ^c	P ^d
	Mean (SEM)	Mean (SEM)	
Pathogen self-reported awareness	10.8 (2.08)	11.7 (2.32)	0.001
Pathogen self-reported understanding	11.03 (1.95)	12.1 (2.98)	0.001

^aSum of responses (n = 326), minimum score = 4, maximum score = 20

^bRespondents who stated they do not currently teach nor do they intend to teach patients about food safety (n = 159), SEM = standard error of mean

^cRespondents who stated they are currently teaching patients about food safety; n = 168, SEM = standard error of mean)

^dP = probability, t-test

TABLE 6. Frequency and type of specialized food safety training received by survey respondents

Food safety training ^a	Do not teach ^c	Teach ^c	P ^d
Received food safety training (n = 285)	138 (48.4)	147 (51.6)	0.737
Training options (n = 285)			
Vocational, technical or college curriculum course (n = 226)	110 (48.7)	116 (51.3)	0.868
Continuing education course (n = 109)	38 (34.9)	71 (65.1)	0.001
Conference or workshop (n = 115)	35 (30.4)	80 (69.6)	0.001
Employee food service training (n = 157)	75 (47.8)	82 (52.2)	0.808

^aComparison made between groups for each training option n (%); response options, 0 = no, 1 = yes

^bRespondents who stated they do not currently teach nor do they intend to teach patients about food safety (n = 159)

^cRespondents who stated they are currently teaching patients about food safety (n = 168)

^dP = probability, Pearson Chi-Square

or if they compromised the homogeneity of subject that was being tested (internal consistency). The items tested in the survey but not reported in this study were generally similar to those taught to the general public and are consistent with popular educational programs such as the FightBAC™ program (<http://www.fightbac.org/>). The reported items in Table 2 tested knowledge of food safety guidance primarily important to patients at high risk for foodborne illness (4, 7, 10, 13). All of the reported and non-reported knowledge items were developed and tested to have acceptable psychometric characteristics with a

variety of population groups, including those expected to be less knowledgeable of food safety (low-income consumers, $\alpha = .75$) and more knowledgeable (undergraduate students in dietetics and hospitality management, $\alpha = .82$) (14). Unlike consumers or college students, dietitians are educationally a relatively homogeneous group. Therefore, general knowledge items may not have been sufficiently challenging to this group of health professionals and, because of the respondents' educational background, may have lacked the sensitivity to detect differences between teaching groups.

Pathogen self-reported awareness and knowledge

The RDs who responded to this survey perceived they were less aware and knowledgeable of the four pathogens that cause foodborne illness than of general food safety (Table 5). The pathogens chosen for the survey were selected for the frequency or severity of the illness they caused, the potential for severe chronic sequelae, and their overall public health, societal and economic impact (16). *Salmonella* and *E. coli* O157:H7 are pathogens that have been implicated in recent and highly publicized foodborne

TABLE 7. Journal and Web sites most often mentioned by survey respondents

Category	Mentions n (%)	Frequently mentioned example
Journals	336 (100)	
Food service professional or trade	17 (5.1)	Food Service Director
Dietetics professional	199 (59.2)	Journal American Dietetic Assoc.
Medical professional	31 (9.2)	Journal American Medical Assoc.
Food safety or science professional	12 (3.6)	Journal of Food Safety
Clinical dietetic trade	50 (14.9)	Today's Dietitian
General nutrition or health professional	27 (8.0)	Amer. Journal of Clinical Nutrition
Web sites	466 (100)	
Partnership for Food Safety Education	107 (23.0)	www.fightbac.org
Food and Drug Administration	58 (12.4)	www.fda.gov/Food/default.htm
Centers for Disease Control and Prevention	46 (9.9)	www.cdc.gov
State government	6 (1.3)	www.dshs.state.tx.us
Other government or international	25 (5.4)	www.nih.gov
Medical professional	35 (7.5)	www.webmd.com
Nutrition or health professional	51 (10.9)	www.RD411.com
Food service	20 (4.3)	www.servsafe.com
Dietetic professional	76 (16.3)	www.eatright.org
University or extension education	12 (2.6)	www.ag.ndsu.nodak.edu/safety.htm
New media	14 (3.0)	www.cnn.com
Information search	16 (3.4)	www.google.com

illness outbreaks associated with highly nutritious fresh vegetables (12, 17). *Listeria monocytogenes* causes death in about 25% of cases (16), and is a particular health risk for pregnant women and the elderly (1). The responses to items probing pathogen self-reported awareness and knowledge indicate that dietitians were generally familiar with these three pathogens; however, differences between teaching groups were found for both pathogen self-reported awareness (Table 3) and knowledge (Table 4), with greater self-reported awareness or knowledge associated with current teaching behavior. Overall, the respondents were less familiar with *Campylobacter jejuni*. This pathogen frequently results in illness (16), but often resolves without any

medical intervention. While RDs may perceive less urgency to educate high-risk patients about *Campylobacter jejuni*, advanced knowledge of the long-term consequences of infection with this pathogen may influence their teaching behavior.

Food safety training and information channels

Highly significant differences ($P < 0.001$) were noted between teaching groups for those RDs who stated they had specific food safety training in some form of continuing education or workshops (Table 6). Specialization in a topic is optional and is associated with the professional development plan requirements of the Commission on Dietetic Registra-

tion (2). Professional development is a function of the long-term learning needs perceived by the individual dietitian. If dietitians see the need to improve their grasp of a particular topic, they are encouraged to voluntarily select educational opportunities in that topic to include in their required continuing education plans. Post-baccalaureate professional development in food safety is consistent with the observation that older RDs were more likely to teach food safety to patients. Formal education did not distinguish teaching behavior between groups (Table 6).

We have previously reported frequent reliance on consumer-oriented education programs as media sources of food safety information used by dieti-

tians who are health providers for immune compromised groups at high-risk for foodborne illnesses (5). The present study points to the importance of the Internet as a source of food safety information. Web sites as food safety sources were frequently mentioned as information channels (Table 7), and were consulted more frequently by RDs who are currently teaching food safety to patients (Fig. 1, $P < 0.001$). Either professional information channels or training were mentioned, but many of the examples are known for medical nutrition topics and not for information on opportunistic infectious diseases (Table 7) that may be foodborne illnesses in the immune-compromised patients. The implication of this finding, along with the findings on general food safety knowledge and pathogen self-reported awareness and knowledge, is that RDs are apparently seeking basic food safety information and information that is not in-depth to fully understand the implications of pathogen exposure in susceptible patient populations.

CONCLUSIONS AND RECOMMENDATIONS

The Commission on Academic Dietetic Education organizes food safety as an educational competency under food service management (3). Perhaps association of food safety with medical nutrition therapy would encourage younger dietitians to address the topic with their patients. The implication of this study is that food safety education should be focused on mechanisms of infection and pathogen control and not just on consumer behavior.

An important finding of this study is that the Internet is a popular and frequently utilized source for food safety information for dietitians. This points out the opportunity to design online professional development offerings that will promote food safety knowledge for the health benefit of the immune-compromised patient, an information channel available to any RD who needs information in a highly accessible format. The appropriate depth and quality of the information are essential to effective food safety education.

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