Patients’ Use of the Internet for Medical Information

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OBJECTIVES: To determine the percentage of patients enrolled in a primary care practice who use the Internet for health information, to describe the types of information sought, to evaluate patients’ perceptions of the quality of this information, and to determine if patients who use the Internet for health information discuss this with their doctors.

DESIGN: Self-administered mailed survey.

SETTING: Patients from a primary care internal medicine private practice.

PARTICIPANTS: Randomly selected patients (N = 1,000) were mailed a confidential survey between December 1999 and March 2000. The response rate was 56.2%.

MEASUREMENTS AND MAIN RESULTS: Of the 512 patients who returned the survey, 53.5% (274) stated that they used the Internet for medical information. Those using the Internet for medical information were more educated (P < .001) and had higher incomes (P < .001). Respondents used the Internet for information on a broad range of medical topics. Sixty percent felt that the information on the Internet was the “same as” or “better than” information from their doctors. Of those using the Internet for health information, 59% did not discuss this information with their doctor. Neither gender, education level, nor age less than 60 years was associated with patients sharing their Web search with their physicians. However, patients who discussed this information with their doctors rated the quality of information higher than those who did not share this information with their providers.

CONCLUSIONS: Primary care providers should recognize that patients are using the World Wide Web as a source of medical and health information and should be prepared to offer suggestions for Web-based health resources and to assist patients in evaluating the quality of medical information available on the Internet.

KEY WORDS: Internet; primary care; health information.

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The use of the Internet as a source of medical information has become increasingly popular as more patients “go online.” According to a recent United States survey, 52 million adults have used the World Wide Web to obtain health or medical information.1 By 2005, an estimated 88.5 million adults will use the Internet to research health information and/or health-related products and to communicate with providers.2 Access to large amounts of medical information is available through an estimated 20,000 to 100,000 health-related Web sites.2,3

Patient-provider relationships will probably change, and medical providers will face new challenges as patients obtain health information from the Internet, share only some of this with their physicians, or potentially turn to the Internet instead of consulting a health care provider.3

Although information is available on the use of the Internet for health information, few studies have specifically examined Internet use among patient populations,4–7 and no previous reports have focused on a primary care patient population. The goals of this study were to 1) determine the percentage of patients from an internal medicine private practice who use the Internet to obtain healthcare information, 2) describe the types of information sought, 3) evaluate patients’ perceptions of the quality of information available on the Internet compared to their medical providers, and 4) determine if patients who use the Internet for health information discuss this information with their doctors.

METHODS

We mailed a confidential, self-administered survey to 1,000 patients selected at random from the billing files of a primary care internal medicine private practice located in Providence, RI. The practice consisted of 5 general internists with approximately 6,000 active patients. The mailing list was limited to patients age 18 to 65 years with at least 1 patient encounter during the previous 3 years including regular follow-up, new patient, and urgent visits. The survey was first mailed in December, 1999; nonresponders received a second mailing in January and a third mailing in March of 2000. As an incentive to returning the survey, all respondents were entered into a lottery for a gift certificate to a local shopping center, and as an additional incentive, a voucher for free parking on the hospital campus was included with the third mailing. A cover letter explaining voluntary participation and confidentiality was included with each mailing, and both patients who used and those who did not use the Internet were asked to respond. The study was approved by the hospital institutional review board.

The survey required approximately 10 minutes to complete. Prior to distribution, the survey was pilot-tested
to gauge participant comprehension of questions and time needed for completion. The survey contained questions regarding demographics, use of the Internet for medical reasons including information regarding specific conditions and medications, and frequency of use. Respondents were asked to rate the usefulness of the Internet and other sources of health information available to consumers and to list health care topics that they had searched for over the past 6 months. Additionally, respondents were asked about their perception of the quality of health information on the Internet ("In general, how would you rate the quality of health information available on the Internet?"). and were asked to compare this quality with the quality of information provided by their doctor ("Compared to information learned from your doctor, how would you rate the quality of health information available on the Internet?"). Although respondents were not asked for specific Web sites that they had used, they were asked their opinions about how they judged whether a site was reliable ("Which of the following do you feel makes an Internet health site a 'reliable' source for health-care information?"). Finally, respondents were asked if they shared the information acquired online with their medical providers ("Do you discuss health information learned from the Internet/World Wide Web with your doctor?").

Bivariate associations of Internet use with patient characteristics were tested with the independent samples t test (continuous variables) and the Pearson χ² test (categorical variables). Independent variables with P values of <.20 were entered in a multiple logistic regression model use where the use of the Internet was the dependent variable. Nonsignificant contributors to the model were removed through an iterative process. All statistics were performed using Stata (version 6; Stata Corp., College Station, Tex).

RESULTS

Of the 1,000 surveys mailed, 88 were not deliverable by the Post Office and 1 survey was delivered to a patient who did not qualify for inclusion on the basis of age. Of the remaining 911 surveys, 516 were returned, but 4 were not included in the analysis (1 was illegible; 1 patient was unable to complete secondary to disability; and 2 were completed by family members instead of patient). Thus, the overall response rate was 56.2 percent, and 512 respondents were analyzed.

Demographics of Respondents and Internet Users

The mean age for survey respondents and nonrespondents was 47 years (±SD 12) and 44 years (±SD 12), respectively (P < .01); 56% of respondents were females versus 45% of nonrespondents (P < .01). The characteristics of the 512 respondents are shown in Table 1. Of the respondents, 53.5% (274 of 512) stated that they used the Internet for health information. The mean age of respondents who used the Internet for medical information was 45.8 years (±SD 11.3) compared to 49.3 years (±SD 11.6) for those who did not (P ≤ .001). A higher proportion of patients who used the Internet were college educated (P ≤ .001) and had annual household incomes greater than $50,000 (P ≤ .001). In the multiple logistic regression model, Internet use was associated with age less than 60 years (odds ratio [OR], 3.08; 95% confidence interval [CI], 1.75 to 5.42), college education (OR, 2.33; 95% CI, 1.56 to 3.49), and household income level ≥$50,000 per year (OR, 2.00; 95% CI, 1.33 to 3.00).

Nineteen percent (51 of 271) of those using the Internet for health information indicated that they used the Internet at least once a week, while 35% (95 of 271) used the Internet at least monthly.

Types of Health Information Sought

Respondents used the Internet for a variety of health-related reasons. Sixty-eight percent (185 of 271) indicated that they sought information about nutrition or diet. Fifty-eight percent (157 of 272) noted using the Internet to investigate drug side effects or complications of medical therapy. 41% (112 of 273) to find information on complementary or alternative medicine, and 41% (111 of 270) to obtain second opinions about medical conditions. Only 9 individuals stated that they had ever purchased alternative and/or complementary remedies from a Web site and only 1 respondent obtained a medical prescription from an online doctor.

As shown in Figure 1, patients used the Internet for information on a broad range of medical topics. Many of the items that respondents searched for were common medical conditions addressed by primary care physicians.

Patients’ Perceptions of Quality of Health Information on the Internet

Respondents rated the usefulness of various sources of health information available to consumers including