

Are Our Patients Using the Internet?

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Abstract

***Background:** Internet use has exploded in the last several years. We currently lack basic information about as to how many of our patients are using online resources and understand little on patients' goals and objectives. **Objective:** improve our understanding of our patients' utilization of the Internet **Method:** We surveyed 247 outpatients to determine the extent of using on-line resources. **Results:** 82% (95% C.I.) had a computer or access to one; 59% used the Internet to inquire about health information and they spent an hour or less online per day. Forty-nine percent wanted their clinician to advise them on health related specific Internet sites. **Conclusions:** In this preliminary study, we found high computer availability and Internet utilization (German J Psychiatry, 2001;4:24-28*

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Introduction

The Internet is arguably the most widespread and accessible information resource ever devised. The ease of access from the comfort of one's home or office with a relatively low cost makes it an excellent alternate or additional source of information for patients (Klemenzt et al., 1997). The Internet could be used for patients' education as well as communication between patient and the general practitioner (Cooling et al., 1997). Several methods for improved Internet utilization in the healthcare field already exist. The World Wide Web (WWW) has some value as a support resource for patients via on-line discussion groups (Frenberg et al., 1996). Among other efforts to optimize the use of this communication vehicle, some authors have sought to inform physicians about this novel system, how it works (Huang et al., 1996), and potential for its use (Wang et al., 1997). Assessment of psychiatric patients' use of this system and their reactions to its use is however limited. We surveyed

a consecutive sample of 247 outpatients consisting of predominantly young and college educated Caucasian females of middle income, to evaluate the incidence and purpose of their Internet use.

Methods

The Institutional Review Board (IRB) approved our survey instrument consisting of 15 questions (5 demographics). It stated the voluntary nature of participation and implied consent by completing the questionnaire. Office staff at a University hospital based outpatient psychiatry-clinic distributed the anonymous questionnaire to consecutive adult patients (18-65 years) at time of check-in. Each patient filled the survey only once and throughout the month of February. We analyzed the data with Chi-squares to compare demographic groups. Percentages at 95% confidence interval (95% C.I.) are presented.

Results

The response rate was 98% (95% C.I.). Four patients declined participation and did not state a reason. Hundred ninety-eight patients (82%) had a computer or access to one while forty-five did not. Missing information taken into account, we calculated item's adjusted total (Table 1). The sample was composed of 57% females. The race distribution was predominately Caucasian (84%). 93% of the patients had 1-3 years or more of college education. All patients had completed high school. 89% had an income higher than \$12,000/year. Eighty-four percent of our patients used the Internet to seek general information and 72% used it for communication.

Almost all patients (86-95%) used either Internet (including email), WWW, or both. A 59% spent less than one hour/day on the Internet. Patients in general inquired more about general health information on the Internet instead of specifics like their own medication or diagnosis (p=0.007). The same was true for females, inquiring more

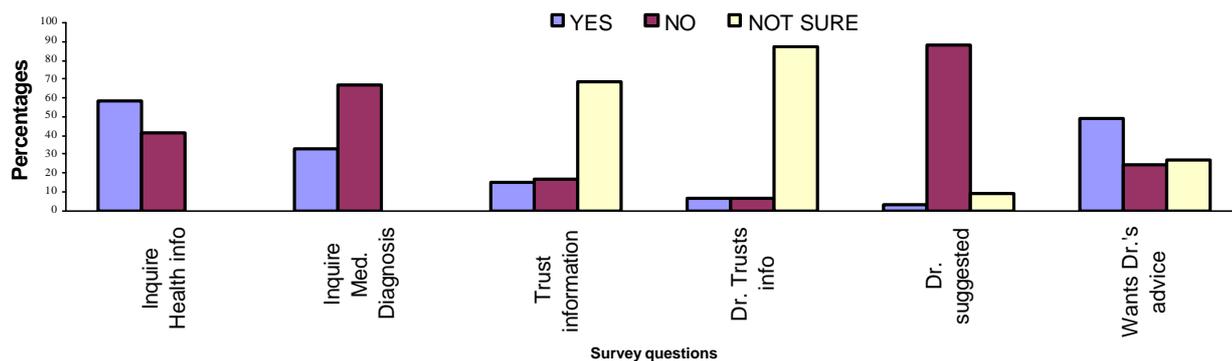
about general health information (p<0.001) than about a particular medication or diagnosis, while males inquired similarly on all these. Patients with any college education inquired more on general health related information than about their medication or diagnosis (p=0.039 – p=0.059). The same was true for patients with annual family income of \$25,000-100,000, when compared with the rest (p=0.02 – p=0.057), and these constituted 58% of the sample. On the other hand, 87% were not sure whether their clinician trusts the information on the Internet (Figure 1). 88% percent said their doctor had not suggested obtaining information from the Internet and 68% were not sure whether they trust the medical/psychiatric information on the Internet. These findings were consistently significant even after dividing the sample by gender (p<.001), or income bracket (p<.001), except for the \$13–25,000 group (p=.117).

Yet, 48.7% were interested in getting advice from their doctor about specific sites to look on the Internet, 27.8% were not (p<.001) and 23.6% were not sure. All males 63 of 63 (p<.001) did want specific advice on sites to browse while more of the females did not want any (p<.001). If they had

Table 1. Demographics of Inquiring for Health Information and Medication or Diagnosis. (*) n is the Number of Yes, No or Not Sure Answers and N is the Total Corrected for Blank Answers for Each Variable.

Variable	N	Percent ±95%CI	Inquired Health n/N*	Percent ±95%CI	Inquired Med./Diag. n/N*	Percent ±95%CI	P Value
Age	195						
18-28 years	75	37.9±11.0	38/74	51±11.4	26/74	35±10.9	----
29-38 years	50	25.3±12.1	32/49	65±13.4	19/49	39±13.7	----
39-48 years	48	24.2±12.1	18/48	38±13.7	15/48	31±13.1	.0273
49-65 years	22	11.1±13.1	9/20	45±21.8	3/21	14±14.8	.0216
Gender	175						
Male	63	31.8±11.5	38/63	60.3± 12.1	38/63	60.3±12.1	----
Female	112	56.6±9.2	59/109	54.1± 9.4	11/110	10±5.6	2.8E ⁻⁹
Race	194						
White	167	84.3±5.5	97/163	59.5±7.5	54/164	32.9±7.2	.0005
Black	7	3.5±13.6	4/7	57.1±36.7	4/7	57.1±36.7	----
Hispanic	4	2.0±13.7	2/4	50.0±49.0	0/4	0.0	----
Asian	7	3.5±13.6	3/7	42.9±36.7	2/7	28.6±33.5	----
Other	9	4.5±13.5	4/9	44.4±44.0	3/9	33.3±30.8	----
Education	195						
6-10 y. school	0	00	0	00	0	00	----
High-school	13	6.6±6.9	8/13	61.5±13.5	4/13	30.8±12.8	----
1-3 y. College	68	34.3±5.8	34/67	50.7±6.1	19/68	27.9±5.4	.0111
College Graduate	80	40.4±5.5	50/78	64.1±5.4	32/78	41.0±5.6	.0368
College Post-Graduate	34	17.2±6.5	19/33	57.6±8.6	9/33	27.3±7.8	.0516
Income US\$	186						
0-12,000	19	9.6±13.2	8/19	42.1±22.2	7/19	36.8±21.7	----
13-25,000	35	17.7±12.6	21/33	63.6±16.4	13/33	39.4±16.7	----
25-50,000	54	27.3±11.9	35/54	64.8±12.7	18/54	33.3±12.6	.0205
50-100,000	54	27.3±11.9	33/54	61.1±13.0	18/54	33.3±12.6	.0374
> 100,000	24	12.1±13.0	11/22	50.0±20.9	7/23	30.4±18.8	----

Figure 1. Health related use and perceived usefulness of the Internet



graduate or postgraduate college education, patients were more likely to be interested in getting advice about specific sites to look on the Internet ($p < .001$ and $p = .009$ respectively). The same was true if they earned between \$13-100,000 ($p < .001 - p = .058$).

Discussion

This survey provides preliminary information on Internet use among psychiatric outpatients. A relatively high number of our patients 82% ($p < .001$) have a computer or access to one. From those, 86-95% is online and a majority spends at least one hour/day. The high usage could be due to the predominantly young Caucasian female patients who were college-educated and of middle to high-income some of these characteristics seem to correlate with higher Internet use (Sonnenberg et al., 1997). In this survey, many patients had an interest in specific advice from clinicians for Internet health-related sites. Further, we found an interesting difference that correlated with gender: When online, women inquired about general health issues more than a specific medication and diagnosis ($p < .001$). However, they were not significantly interested in specific advice from their clinician, opposite to the preferences of men on both items. Future detailed surveys are needed to clarify the reasons behind these gender differences. A majority of our patients seemed to be online, creating an unparalleled opportunity for a possible Internet use in patient education and support. Yet, another potential use could be public health awareness, prevention and outreach (Sonnenberg et al., 1997).

As for the interaction between patient and clinician, 85% of patients stated their clinician did not suggest obtaining specific information from Internet (Figure 1). Another possibility could be clinicians' lack of appreciation of the available medical information on the web, or not knowing that high numbers of patients have access to the Internet and have interest in getting advice from physicians. Finally, clinician's lack of time, familiarity, or comfort with Internet's health related sites, does not help

(Lim et al., 1996). Evaluating information on the Internet could be an obstacle (Jadad et al., 1998). In lack of objective methods, considering the source of the information can help with the judgment of reliability; professional organizations and government sites are trustworthy and usually updated. Clinicians ought to be active participants on the web, and self-education might be a practical solution to maintain continuous update (Huang et al., 1999). Approximately half (47%) of our surveyed patients were interested in clinician's advice about specific sites on the Internet while 26% were not sure (Figure 1). This interest could be used to promote compliance and delivery of clinical information through this increasingly available medium of communication.

The demographics of our sample limit the generalization of the findings to certain populations. Other limitations could be the lack of demographic data on patients who did not have access to a computer ($n=45$) or refused to participate ($n=4$). Nevertheless, we speculate they might have similar characteristics. The relatively small sample size, not validated survey, and cross-sectional data collection are among other limitations. Having data only on 18-65 years old could be misleading, since younger patients are usually more involved and spend more time on the Internet even that recently older patients are following this trend (Sonnenberg et al., 1997).

Conclusions

In this sample of a psychiatric clinic population, Internet utilization in general and for health related purposes seemed to be high. Yet, there was little if any communication between clinician and patient about the Internet. Even further, a good number of our patients were looking-up their diagnosis and medication and are interested in advice about specific sites on the Internet, more so if they were males. In this sample consisting of psychiatric patients, college graduate or postgraduate education as well as middle high income seemed to imply higher usage or interest in Internet resources. Promoting self-education or interest in Internet may be one practical solution, and using clinical time for patient education about some reliable sites could be useful for interested patients. We

clearly need more studies to replicate and supplement our findings.

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Appendix

Questionnaire on Internet Use

*You have been selected to participate in a survey about the usage of the Internet. By continuing with the questionnaire you are voluntarily participating in our study. If you choose not to do so please note that it won't affect your treatment or any aspect of your relationship with our clinic or your mental health provider. Please **DO NOT** mark your name or any other identification number. This will help us in keeping the information anonymous, which is our goal. Please check the appropriate box of every question and make sure to answer as many as possible. Thank you for your participation.*

1) I have a computer or access to a computer: Yes No

If you answered NO, you don't need to continue, please place the questionnaire in the assigned box.

2) I use (check all that apply): Internet W.W.W. E-mail

3) When I use the Internet I spend/day (on average):
Less than 1 hour 1-2 hours 3 or more hours

4) I use the Internet for (check all that apply):
Personal purposes Entertainment Information
Communication Educational other _____

5) I use the Internet to inquire about health information
YES NO

6) I use the Internet to inquire about my medication or diagnosis.
YES NO

7) I feel that I can trust the medical/psychiatric information I get on the Internet
YES NO I am not sure

8) I feel that my doctor/clinician trust the information on the Internet
YES NO I am not sure

9) My doctor/clinician have suggested obtaining specific information from the Internet:

YES NO I am not sure

10) I would like my Doctor/Clinician to advise me about specific sites to look on the Internet:

YES NO I am not sure

The next five questions are optional and would help us in characterizing your answers:

11) Your gender is: Female Male

12) Your age is: 18-28 years 29-38 years 39-48 years 49-65 years

13) Your race is: White Black Hispanic Asian Other

14) My education is: 6-10y of school High School 1-3y of college
College graduate College post-graduate

15) My gross family income is (US\$): 0-12,000 13-25,000 25-50,000
50-100,000 > 100,000

Comments: _____