



RESEARCH ARTICLE

**URBAN PAKISTANIS AND USE OF ONLINE HEALTH RESOURCES:
A CROSS-SECTIONAL SURVEY**

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Abstract:

The use of online sources of health information is on the rise in Pakistan and elsewhere. This resource can be an important tool for improving the quality of healthcare available in the country. This survey was undertaken to discover the extent to which people living in major cities of Pakistan use online sources of health information, what kind of information they seek and why. For this purpose, a convenience sample of 500 people were sent self administered online survey and personally administered surveys, with an overall response rate of 87.2% (n=436). Majority of participants that used the Internet as a source of health information in Pakistan were found to be female, in the age group of 18-25 years and had at least a graduate degree. While respondents believed the information they find online is reliable, women were more likely than men to let information found online affect their treatment decisions. When Chi-square test was applied, the results were not accepted (CI 95%). Women were also found to be more likely to go to a professional for help than men. Respondents used online resources for greater understanding, ease of access, and up to date knowledge. While there are many benefits to be had from developing an online system of health care information, the issue of credibility of information and lack of education and access to modern amenities in rural areas are hurdles that must be overcome.

Key Words: Online Health Care Information, Pakistan, Survey, Chi-square.

INTRODUCTION:

The internet is being utilized increasingly as a source of health related information.¹⁻² The major advantages include easy access to a huge volume of information, simplicity of overhauling data, ease of updating information, easy navigation and simple format that help in understanding and retaining information.³ There is a significant increase in the number of individuals who are searching for health information on the internet. The Pew Research Center's Internet & American Life Project conducted a survey and found that 72% of U.S. adults searched for health information on the web within the past year, with the most searched topics being diseases, medicines, treatments, surgical procedures, and physician/healthcare providers.⁴ Owing to decline in the price of Internet services and Internet-enabled devices, developing countries are also experiencing an unprecedented rise in the use of internet technologies. Pakistan saw an astounding increase in the number of internet users reaching upto 31 million in the year 2014.⁵⁻⁷

Lots of people search their medical issues on the internet; they not only look for the symptoms of the disease but for available treatments and medicine as well. Patients now can discover answers for extra or overlooked inquiries, and can investigate sensitive inquiries in the comfort and privacy of their own homes. Moreover, through rising patient-focused sites, online journals, health forums and support groups, patients can share their individual wellbeing and sickness experiences.^{1, 8-10} This kind of information may help patients to get better information about their disease, and reduce feelings of being alone and isolated, it also helps patients who are immobile and homebound as a result of debilitating illness or disability.¹¹

There are, however, conflicting views about the value of the Internet as a tool to improve health care. It is hard to regulate quality of information found online and poor health information used in an improper way can be highly dangerous.¹²⁻¹³ Patients might trust misleading information or might make important health decisions based on sensationalized or emotionally charged stories that are not applicable to their health issue. The Internet can also be utilized as a stage for the advancement of elusive and unscientifically established health practices. Patients differ widely in their health information literacy and are not able to understand given information resulting in the misinterpretation of health information.¹⁴ These factors can prompt a false feeling of learning and conceivably noncompliance if the patient embraces beliefs that differ from proper medical practices.

Increasing health consciousness and knowledge through internet has the potential for improving health; the ultimate objective of every health policymaker. Present study aimed to assess the use of internet as a source of health related information by the people in major cities of Pakistan by a self administered survey.

METHODOLOGY

An anonymous, self administered questionnaire comprising of ten questions was distributed among a convenience sample of 500 people. Questionnaires were sent out through social media and via personal approach by the authors. Demographic information was also obtained from the respondents. Participants were asked whether they used the Internet as a source of obtaining medical/health related advice or information. Those that answered the question negatively were not further questioned, and were not counted as being respondents. Those that answered yes to the initial question were further asked about how often they used the internet as a source of medical information, which websites they frequented for the same, what type of information they seek and why, and for whom. They were also asked their perception of the quality of information found online and whether it influenced their treatment decisions. Data was statistically analyzed using SPSS and Chi-square test was applied.

RESULTS

500 questionnaires were distributed, half via social media and half by personal approach with an overall response rate of 87.2% (n=436). Of the emailed questionnaires, 210 responses were received (response rate 84%) and 226 of the individuals approached by the authors in person (response rate 90.4%) consented to take part in the survey. Those in the latter group that refused to participate did so because of other commitments. 64.22% of the respondents were female and 35.77% were male. 372 (85.32%) of the 436 respondents answered positively to using internet as a source of medical information, out of whom 25.7% were males and 59.63% were females.

Demographic information collected is summarized in table 1. The respondents were classified according to their level of education into university graduates (having a minimum of a Bachelor's degree), undergraduates (those who have completed their Matriculation, Intermediate or are enrolled in a university) and postgraduates (those who have a Master's or Doctorate degree), and according to their occupation. The occupations were classified into

those related to the health profession (such as doctors, pharmacists, nurses, orderlies and paramedical staff), those unrelated to the health profession and those who were unemployed.

Table 1: Demographics distribution of data

		n	%
Gender	Male	160	36.70
	Female	276	63.30
Age (in years)	18-25	168	38.53
	26-33	128	29.36
	34-40	52	11.93
	41-49	64	14.68
	50+	24	5.50
Level of Education	Under Graduates	44	10.09
	Graduates	204	46.79
	Post Graduates	188	43.12
Occupation	Health Related Professionals	136	31.19
	Non-Health Related Professionals	152	34.86
	Unemployed	148	33.94
City	Karachi	164	37.61
	Lahore	132	30.28
	Islamabad	140	32.11

The authors have only reported results separately where male and female responses differed significantly. 33.06% (n=123) said they used the Internet all the time, 31.2% (n=116) used it sometimes, while 20.9% (n=78) used it rarely.

Most participants used search engines such as Google, Bing, Ask etc to search for required information. Only 11.83% (n=44) used reliable websites such as www.mayoclinic.com, www.webmd.com, etc. Most respondents looked for information regarding a specific disease. Majority of respondents found the information gleaned from online sources to be useful while 4.30% (n=16) found it to be contradictory to physician’s advice. 59.14% (n=220) preferred the Internet for seeking information about health related topics because of

ease of access. 10.75% (n=40) cited ease of access, reliability, cost effectiveness, better understandability of terminology/treatment/procedure and to save time as reasons for using the Internet as an information source. A summary of responses is given in table 2.

Table 2: Summary of views of respondents

	n	%
Source of Information		
Search engine	280	75.27
Specific websites	44	11.83
Social website	20	5.38
Online health forum	24	6.45
Others	4	1.08
What information is sought?		
On specific disease	134	36.02
About medical treatment or procedure	61	16.40
About medicine	85	22.85
For medical terms	28	7.53
For alternative therapy	48	12.90
All of the above	16	4.30
Reason for Using the Internet as Information Source		
Easy access	220	59.14
Reliable information	32	8.60
For better explanation	28	7.53
Cost effective	24	6.45
Time saving	28	7.53
All of these	40	10.75

Information from Online Source is		
Useful	312	83.87
Confusing	41	11.02
Contradictory	16	4.30
Unanswered	3	0.81

Male and female responses differed when they were asked for whom they performed online health research (table 3). 3.22% (n=12) males and 10.75% (n=40) females went online to resolve queries related to their parents' health issues. More women went online for their children's and siblings' health issues than males. Number of males that went online for their spouse's health issues was zero.

Table 3: For whom is information sought

	Females		Males	
	n	%	n	%
Self	78	20.97	90	24.19
Spouse	4	1.08	0	0.00
Parent(s)	40	10.75	12	3.22
Offspring(s)	32	8.60	16	4.30
Sibling(s)	50	13.44	6	1.61
Pet(s)	0	0.00	8	2.15
All of the above	23	6.18	13	3.49

Health information found online influenced treatment decisions of 16.13% (n=60) males and 38.71% (n=144) females (table 4). In contrast, 80.65% (n=300) of the participants preferred professional advice over internet gleaned information (table 4).

Table 4: Treatment decision

Does Internet Obtained Health Information Influence Treatment Choice?				
	Male		Female	
	n	%	n	%
Yes	60	16.13	144	38.71
No	52	13.98	116	31.18

Which is Preferred; Professional Advice or Information Obtained from Internet?				
	Male		Female	
	n	%	n	%
Professional Advice	118	31.72	182	48.92
Information obtained from internet	20	5.38	52	13.98

DISCUSSION

The internet is a powerful tool for disseminating information. Several researchers have demonstrated its usefulness for this purpose.¹⁵ However, in Pakistan, this is an underdeveloped resource. The increasing number of users of the technology in Pakistan mean that the time is right to launch initiatives that will bring the world of online health information to the general populace's fingertips. For this purpose, it is necessary to understand what kind of people access the internet to obtain health related information.

The authors found graduates employed in other than health-related professions to be the highest number of users of the Internet as a source of information. The target age group was 18-50 years as they were expected to be more at ease with using internet enabled devices such as smart phones, laptops, tablets etc. However, some respondents aged above 50 years were also surveyed. Majority of participants that used the Internet as a source of health information in Pakistan were found to be female, in the age group of 18-25 years and had at least a graduate degree. Interestingly, the demographic make-up of internet users in Pakistan was quite similar (with respect to gender and level of education) to those of USA as reported

by Pew Research Center's report titled 'The social life of health information'.¹⁶ Cline and Haynes also reported that the number of female health information seekers online is greater than males.¹ Research has revealed that adults who were caring for loved ones were more likely to use the internet to gather health-related information for people other than themselves.¹⁵⁻¹⁶ In Pakistan's social set-up, women are the primary care-givers and this was corroborated by our findings (table 3). Women were more likely to look for information on behalf of their spouse, parent(s) and sibling(s) than men.

While it is common knowledge that the veracity of information found on various websites is not always known, only 11.83% of the participants visited reliable websites to obtain health related information (table 2). The overwhelming majority used search engines such as Google to obtain links where they could find answers to their queries. 6.45% claimed to visit online health forums for their questions. WHO acknowledges that it is difficult to ensure that online health information is reliable, accurate and up to date.¹⁷ Even rating by an expert is not always reliable as different professionals may have different views of the same website.¹⁸ A study published in 2001 found that only 20% of a search engine's first pages of links led to pertinent information however the authors judged the accuracy of content to be generally satisfactory.¹⁹

Most respondents believed online sources of information to be useful (n=312). However, by applying Chi-square distribution test it was found that the hypothesis was not accepted (95% CI). Contrary to our findings, the 2011 report by the Pew Research Center states that 30% of all so-called e-patients claim that they themselves or someone they know has benefited from following the advice or information found on the Internet. The report also states that only 3% of the e-patients or someone they know has experienced negative consequences after following such advice. Most participants of the present survey claimed to use the internet as a source for obtaining information about specific disease or procedure, as was also reported by Fox (2011).²⁰

It was found that males were less likely to let information found online to affect their treatment decisions than females, but the result was not accepted by applying Chi-square test (CI=95%) confidence interval. Conversely, men were less likely than women to seek professional advice. Chi-square test revealed that the result was accepted (CI=95%). This may be attributed to the traditional masculine psyche, and their reluctance to appear weak or as needing help.²⁰

Participants claimed that they used the internet as a source of health information because they found it easier to understand, information can be had in a timely manner with ease and it provides up to date knowledge. Some also claimed they used it to obtain a second opinion.

CONCLUSION

Online health information resources, if credible and kept up to date, have the potential of ensuring that better decisions are made by well informed patients, with increased patient satisfaction. The internet can be used to obtain tailored, current information about disease, treatment and prognosis. It can also be used to review a doctor or hospital, and to directly talk to experts in the field, collect lab reports etc. It can reduce the time and paper used in the conventional system. Perhaps the greatest benefit is that the internet is anonymous and sensitive subjects can be easily discussed online. However, even though the number of internet users is on the rise, there is a lamentable lack of education and access to modern amenities in the rural areas of Pakistan. This limits the usefulness of any endeavor that may be undertaken to increase use of online health resource.

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