Research Article

Online Health Information Search: What Behavior for which Users? Towards a Typology of e-Patients

Meryem Zoghlami Bellalouna and Kaouther Saied Ben Rached

ERMA Research Laboratory, University of Tunis El Manar, Tunisia

Correspondence should be addressed to: Meryem Zoghlami Bellalouna; meryem.zoghlami@gmail.com

Abstract

Nowaday, Internet fills the best function of health-related information dissemination. It represents both a free information access tool and a social and a psychological support mechanism. These dimensions do distinguish the Internet from other information-providing services. The aim of this study is to explore health-related information search behavior in order to propose a typology of users according to their search objectives and browsing experiences. A study of 174 e-patients extracted 3 distinct groups of users. These are novice, curious and expert users.

Keywords: health-related information search, internet, typology

Introduction

Advances in Information and Communication Technologies in the health sector, particularly the rapid progress in their use by the public, has opened up new perspectives (Beun, 2003; Ueckert et al, 2003; Eysenbach, 2003). By facilitating access to health-related information, consultancies and services of all sorts, the Internet is growingly proving itself as one of the main tools of patients' accountability (Erdem and Harrison-Walker, 2006). Indeed, diversity and abundance of online information and the emergence of new information producers led to changes in the information dissemination process itself and the appropriation of knowledge by patients. Patients seem to require being involved in taking decisions about the adopted treatments (Charles et al, 1999). They now actively search for information about their health status and the most adequate treatments (Chalamon and Chouk, 2010). Consequently, it became necessary to reposition the traditional services by reconsidering patients' emerging behavior. To this end, this paper proposes to describe e-patients' profiles referring to their online health-related

_____

information search behavior and their use frequency.

The Theoretical Framework

Online health-related information search is defined as the search for and the perception of messages that help in reducing uncertainty about health status and building up a social and a personal dimension to healthcare (Trady and Hale, 1998, p 338 cited in Cotten and Gupta, 2004). Some authors tried to set up a typology of ICT applied to health services. From professionals and patients perspectives, online health services are different. Hazebroucq (2003) distinguishes seven types of uses or applications: exchange between professionals, online patients assistance, domestic care, online health treatments, data exchange organization in a health network, information sharing and health systems management support.

Eysenbach (2001) classified applications according to the relationships between them and categorized them in three groups borrowed from e-commerce; the B2C: interactions between professionals and patients; the B2B: relationships and data exchange between professionals and the C2C: exchanges between patients.

Internet and Health Information

According to Romeyer (2008), there are two distinct types of online information; health information and medical information. Professional medical information, traditionally conceived by health specialists and reproduced according to some criteria and the way scientific public information functions, is health information, reserved for the general public, and available online. Despite the several studies challenging the reliability and validity of this information (Nabarette, 2002, Bourret 2003), Internet users seem to distinguish between specialized and scientific medical information provided by health professionals, and health information aimed at the general public (Paganelli et al., 2008).

Means of disseminating medical information are growing rapidly in number and their production is no longer reserved solely for the scientific sector. Indeed, the role and form of this information has been diversified. Pharmaceutical laboratories, insurance companies, patient associations, research centers or public institutions develop and disseminate medical information in the form of practical information, advice, promotion and advertising of medicines, etc.

According to Nabarette [4], information-disseminating services offered by healthcare websites target all the dimensions of the healthcare process: "production information (medical files, transmission of medical care data, online diagnosis possibilities ...), information on pathologies, medicines, the health system, exchange of experiences between patients ...), comparative information to choose caregivers, insurers, etc .. and coordination information (making appointments, online contracts underwriting ...) ".

The next step is to identify the types of health information services that can be provided online to patients. We distinguish six types of information services: content offered by websites, thematic sites, pharmaceutical laboratory sites and e-pharmacies, patient communities or forums, electronic communication between patients and physicians, and personal health information management.

Health Portals

The mainstream Internet sector has developed significantly in the form of health portals that are targeted to online health users. These portals represent a transformative technology and provide unprecedented access to online information. The comparative advantage of this new service is seen in a 24-hour information service, a wealth of content, structuring of information in databases allowing for an efficient research process (examples: e-sante http://www.e-sante.fr, Medisite http://www.medisite.fr ,Sante-az http://sante-az.aufeminin.com, Doctissimo http://www.doctissimo.fr . ....)

_____

Such websites allow patients to use databases and to search for scientific articles on specific diseases or treatments, the search for care providers, their location, their qualifications and specialties. In the United States, for example, patients who believe they are victims of medical errors can search the web for cases similar to theirs. (Nabarette, 2002).

Initiation to patients medical research has been initiated by a few groups of e-patients (Ferguson T., 2004). Accordingly, the role of the patient in this search relationship has been redefined; patients are no longer passive consumers, "receiver", they are now a partner in their own right. On the other hand, in contrast to the face - to - face meeting, interactive health communication offers anonymity for patients (Robinson et al., 1998). Consumers can access information about sensitive subjects without fear of being known.

At the patient - doctor level, there is a new type of collaboration between them. In a study by Hjortdhal et al (1999), most surveyed clinicians found that informed patients participated more frequently and actively in the doctor-patient relationship. They are able to be more autonomous, to support each other and to make their own decisions (Anderson et al., 2003).

Online information offers opportunities to improve the patient-physician relationship through shared responsibility and care as well as improved communication. According to a 2000 survey conducted in the United States, the use of online health information is a very important means to encourage collaboration between patients and doctors (Wald. Dube, and David, 2007).

A new cooperation model has thus emerged and a stronger teamwork aimed at educating and informing patients online has taken hold. These factors are beneficial to both patients and physicians (Pemberton and Goldblat, 1998), as aptly put by Sampieri-Teissier and Sauviat (2001); "In other words, the patient here has the status of a co-producer: the idea of interactivity that characterizes the profile of the user of the public sector became now a form of co-production and co-provision, insofar as the user partly participates in the performance of the service provided to hem".

Thematic websites

A thematic site is a site that deals with a specific subject, but still remains in the field of health. These sites can deal with a pathology, treatments, health advice, plants, human body, pregnancy, vaccination, nutrition, emergency gestures, drugs etc. They may also provide links to other sites on the same topic.

According to the team at the Johns Hopkins Medical Center, patients visiting the pancreatic cancer site want less face-to-face time and prefer to collect information and treat it by themselves to be able to make the right decisions, in an autonomous way (Pemberton and Goldblat, 1998). For these patients, who are probably reluctant to participate in decision-making, additional information helps them feel more confident and reassured, or even more satisfied with the chosen treatment.

According to a study by the Health On the Net Foundation (2005), the Internet improves patient knowledge, communication, quality of counseling, therapeutic adherence and partnership between them and doctors.

Pharmaceutical Laboratories and E-Pharmacies Sites

Initially intended for healthcare professionals, pharmaceutical laboratories sites are now accessible to the general public. They respond to patients' growing demand for information. The purpose of these sites is to present the pharmaceutical laboratory and its medicines. The user can also find information on the research fields and the pathologies treated by the laboratory.

E-pharmacies allow users to seek advice from pharmacists and provide access to databases such as drug metabolism. (Beuscart, 2000). They make known the

pharmacy to the public, its team, its specialization, but also they provide useful addresses, opening hours, shifts, health information, advice and e-mail-based communication with online customers.

Patients' communities or forums

If content presents the most studied publication dimension of e-medicine, there is in addition its interactive dimension: forums. According to Hagel and Singer (1999), patients' online communities are defined as "the desire to communicate between people sharing a very strong common interest. Communities offer content and communication; they are focused on the patient-consumer, not on sellers or producers; they strongly trust Internet users who are members and who add value by providing information" (Nabarette, 1998).

Health is not only a matter of absence of illness, but also a question of well-being; it incorporates a subjective dimension that reports "the daily experience of people" (Burn and Rootman, 1998). Communities' value and report on people's personal experiences and opinions.

The Ferguson Report (1999), comparing the utility of supporting communities and physicians communities for patients, found that supporting communities are more useful than physicians communities, more economical, provide better psychological help, are convenient, dispose of a better working knowledge, show better compassion and more attention.

However, there are communication needs that e-communities can hardly meet. Some cases need physical presence. For example, patients with chronic diseases are often subject to unpleasant and appalling online questioning about their identity. They need human contact to better accept and manage their disease. Moreover, information quality is not always checked online, it can vary according to the theme in question, hence the risk of using incorrect and invalid information. Moreover, even if the source of information is reliable, interpretation of information by the community member often lacks objectivity

(Korp, 2005; Nettleton et al., 2002).

Electronic Communication between Patient and Physician

As the first real online application since 1971, e-mail is still the most widely used tool of the Internet. Electronic communication with the physician has several advantages; it allows for prescription renewal, for urgent consultations, and receiving test results. Digital technologies currently allow for a real transformation of communication patterns because they are able to maintain communication in an immediate or delayed way with a real and complete interactivity with information providers. A survey conducted by HON indicates that 42% of healthcare professionals think that online consultation could decrease patients' trust in their physicians, while 55% of the patients think the opposite. Moreover, accepting to replace the face-to-face encounter between patients and physicians by electronic communication affects the medical scene: the nature of this relationship will change and the interactions between these two become impersonal. Indeed, seeing patients is often necessary for physicians in so far as it allows them to better appreciate the preferences of their patients and allows them to better identify their needs. During the "virtual encounter", physicians often lose the ability to monitor their patients and the ability to anticipate physical problems (Kassirer, 2000).

Electronic Management of Personal Health Data

The patient's medical record consists of the set of their personal data and aims at improving the health monitoring process quality. The transformation of medical data into computer data gives patients the possibility of accessing and sharing their data with healthcare professionals. This sharing is essential for a coordinated and a continuous care. This new form of personal data management promotes greater access to patient information and improved system performance. It opens up new expectations in terms of patient education

and allows professionals to allocate more time to patients (Fletcher et al., 2001). Indeed, accessing one's own medical record allows the patient to gain on their insurance policies. They then play a more active role in the care relationship. This can make communication with their physicians more interactive and reduce medical errors (Ross and Lin, 2003). However, the practice of sharing the patient's medical record on the web presents major constraints such as respect for privacy and confidentiality of the patient's personal data (Sheehan, 2005).

Bearing in mind the above, it would be interesting to propose a typology of Internet users according to the objectives of online health information research and the intensity of that research. In addition, socio-demographic characteristics will be used to better specify the obtained segments.

Characteristics of Consumers Of On-Line Information Services

In several studies that examined people with cancer, HIV or chronic diseases, it was found that women are looking for more health information on the Internet than men, with the exception of some cases involving specific pathologies such as HIV or lung cancer (Peterson and Fretz, 2003).

Other studies found that interest in searching for online health information is more important for young adults. According to Licciardone et al (2001), the proportion of adults over 60 looking for health information is three times lower than the proportion of people aged between 18 and 39 years. Other studies show that people aged between 30 and 60 look for more online health information (20-30%) than people under the age of 30 or those over the age of 60 (about 10 %) (Fox and Rainie, 2002, HON, 2006). In addition, several studies found that online health information is mainly used by the most favored social categories; higher socio-economic status, health status and access to health care (Bundorf et al., 2006; Bansil et al, 2003).

Research Methodology

Our study reports on an online questionnaire-based survey administered on health discussion forums using Google's survey software (Doctissimo, sonantejenues, santeAZ, forumdiabète, ..). In order to diversify as much as possible respondents' profiles, we sought several online platforms (platforms not necessarily dealing with health issues). The final survey sample consisted of 173 patients. The table below shows the structure of the sample

Table 1: Structure of the study sample

Criteria	Sample (in %)
Age	
<20 years	6.9
20 -29 years	17.9%
30 -39 years	41.6%
40 -49 years	9.2%
>50 years	24.3%
Gender	
Male	24.9%
Female	75.1%
Education	
Primary school	4%
Secondary school	31.2%
University	64.7%

_____

_____

Countries Europe Maghreb Others	74.1% 20.9% 5%
E-health information services use experience <1 month 1 -3 month 4 -6 month 7 -12 month 1 -2 years 2 -5 years >5 years	25.4% 11.6% 20.2% 8.7% 22.5% 8.7% 2.9%

Measurement of variables

Consumption of online information services is represented by a 7-item scale. Each of the first 6 items reflects a particular aim of online health use. More specifically, each item refers to the use frequency of health websites to meet one of these objectives (Lemire, Sicotte and Paré, 2008). Factor analysis showed that this variable is a unidimensional construct. The factor analysis shows a KMO of 0.780, a significant Bartlett's sphericity test, with items loading on one factor explaining 57.28% of total variance. Cronbach's Alpha measuring the scale's internal reliability is 0.870.

The confirmatory factor analysis reinforces this model. The results of the analysis of factor loadings presented in Table 1 show that the reliability indices are satisfactory (range between 0.7 and 0.96). The unidimensionality of the construct has also been confirmed.

Table 2: Factor loadings and fit quality of items representing consumption of e-health services

Items How often do you use health websites to meet one of these objectives?	Fit quality	Factor loadings
Conses1: Understand a health problem or a disease.	0.497	0.705
Conses2: Look for a second medical opinion.	0.564	0.751
Conses3: Find a solution or a treatment to a particular health problem.	0.630	0.794
Conses4: Prevent a disease by adopting a healthy life style.	0.543	0.737
Conses5: Communicate with my physician.	0.519	0.720
Conses6: Participate in forums and discussion groups.	0.701	0.837
Conses7: Generally, how often do you visit health websites per month?	0.557	0.746
Variance Explained	57.28	
Cronbach's Alpha	0.870	
KMO	0.780	
Bartlett's test significance	0.000	

_____

Then, a confirmatory factor analysis was conducted using XLSTAT to check the obtained factor structure.

Table 3: Reliability and Convergent validity of measures

Constructs and coefficients	Cronbach's Alpha	Convergent validity	Validity Coefficient	Factor loadings
		AVE	vc[a]	λ
Consumption of e-health services				
Conses1: Understand a health problem or a disease.				0,781
Conses2: Look for a second medical opinion.				0,901
Conses3: Find a solution or a treatment to a particular health problem.				0,890
Conses4: Prevent a disease by adopting a healthy life style.	0.948	0.959	0.772	0,918
Conses5: Communicate with my physician.				0,919
Conses6: Participate in forums and discussion groups.				0,896
Conses7: Generally, how often do you visit health websites per month?				0,838

The obtained results on reliability and validity of our constructs indicate that our model is good. Indeed, reliability coefficients are higher than the required thresholds (0.7), convergent validity coefficients, as measured by factorial loadings and average variance extracted (AVE) are satisfactory and discriminant validity coefficients, as measured by inter-item correlation and cross-loadings, are acceptable.

Data Analysis and Results

The aim of this paper is to draw up a typology of online researchers of online health information according to objectives. In what follows, we will present the obtained typology and use frequency.

Typology Of E-Patients

Using the XLSTAT software, we carried out an ascending typological analysis and applied the Ward algorithm, favoring a strong homogeneity within the studied groups. We retained the Euclidean distance to distinguish between consumer groups. The reasons to use this method are:

- Our sample is medium in size,

- The number of groups to be retained cannot be fixed a priori.

The Ward aggregation criterion has the merit of automatically searching for the best partition, i.e. the best number of categories. This decision-making tool makes it possible to limit interpretation errors linked to the choice of the optimal partition (Evrard et al., 1993).

To check the quality of the typology, certain criteria must be assessed:

⏹ - The ratio between intergroup variance and total variance should be close to 1. This ratio indicates the share of information explained by the typology.
⏹ - The typology must be meaningful: a reasonable group size and plausible interpretation.

The variables selected for the typology analysis were: 1) level of health services consumption by patients; 2) type of service used; 3) level of previous experience with e-health usage.

We first checked the correlations between the variables. Indeed, in a typological analysis, a too high correlation between the variables may affect and distort the interpretation of the extracted groups.

_____

The software indicated that the optimal number of groups was 3. The intergroup / total variance ratio is high, it is around 0.710.

Reading the dendrogram, we distinguish three heterogeneous groups that clearly differentiate online health users. The table shows the barycentres of the three consumer groups.

Table 4: The Barycentres of the Three Consumer Groups

Means Variables	Sample mean	Group 1 (47 patients)	Group 2 (55 patients)	Group 3 (71 patients)
Experience	3.289	1.213	2.945	4.930
Understand a health problem or a disease.	1.890	1.043	1.564	2.704
Look for a second medical opinion.	2.798	1.553	2.255	4.042
Find a solution or a treatment to a particular health problem.	2.861	1.149	2.582	4.211
Prevent a disease by adopting a healthy life style.	2.884	1 .468	2.436	4.169
Communicate with my physician.	2.913	1.068	2.091	4.775
Participate in forums and discussion groups.	3.376	1.447	3.255	4.746
Generally, how often do you visit health websites per month?	3.254	1.638	3.473	4.155

Interpretation of the Results

Comparing the means for each type of consumption in each of the three groups shows that group 3 has the highest means for all variables and that group 1 has the lowest means for these variables. The following interpretations can be advanced:

- The first group includes novices (55 patients), i.e. patients who have the lowest scores on all the variables. This group seems to use the Internet for health purposes in an infrequent manner. They are much less numerous than the experts. They are Internet users who are motivated by their curiosity. They can be considered as initiating the process of replacing the traditional means of finding information such as newspapers, fax, television, etc with the Internet.

- The second group includes 47 patients who can be qualified as moderate e-health consumers and *curious*. Indeed, the service most used by this group is participation in forums. It consists mainly of patients with an average experience with e-health services usage and who have an above average use of online health services. These users often use e-health for a utilitarian purpose and in particular to satisfy their curiosity. They use the Internet for a functional purpose as a practical communication tool. It is the practical side that dominates the relationship between patients and services. The highest score goes to participation in forums, showing that this group has a particular interest in the interpersonal dimension of the Internet. The use begins with a simple exchange of e-mails to initiate a way of communication with others. They then have a strong desire to increase their sense of community belonging to a virtual place by sharing their feelings to the group.

_____

Finally, for this group, the Internet can be considered a space that allows them the opportunity to get out from their own comfort zones and forge new relationships and develop new communities in virtual networks.

- The third segment (71 patients) includes individuals with similar and relatively high scores for all variables. It consists mainly of experts because of their above average experience and their regular and very frequent use of e-health services. They are functional, curious and social. E-health becomes a means of developing a communication network that gives the individual a sense of belonging allowing them to play an active role within the group. Accordingly, e-health services are not limited to satisfying communication needs and belonging to a community but also transforming the group into a homogeneous entity that is defined according to the commitments of each user. A commitment that goes beyond the simple need to exchange information (e.g. to be reassured about a treatment, sharing concerns and doubts, ..). Indeed, when users of this category maintain a lasting online relationship, use takes the form of a practice that covers not only usage techniques but also behaviors, attitudes and representation of individuals that are related directly or indirectly to the medium (Jouët, 1993). With this practice, a form of involvement develops, giving birth to virtual social communities created by users themselves (Armstrong and Hagel, 1995, 1996, Hanson, 2000).

Conclusions and contributions

The aim of this study was to propose a typology of online health users. The results distinguished three groups of patients: novices, curious and experts. Companies should then be aware of the characteristics and specificities of each patient group relying on their use frequency and the research objectives pursued. Such a typology allows them to set up specific offers that respond effectively to patients' expectations, attitudes and psychology.

Healthcare providers can better position

and target their offerings and develop communication strategies that suit effectively the identified patient profiles. For example, for the novice group, communication should focus on the benefits of e-health services. For the curious, the emphasis should be on more attractive and easier to use features. For the experts, actions should be aimed at some specific characteristics of the service such as service speed, information quality, website ergonomics, etc. Websites should be able to provide information adapted to patients' medical history. The aim is to maintain a direct and a continuous contact with patients in order to monitor and retain them.

However, our study is not without limitations. First, our survey was carried out using consumers who had already taken the initiative to respond to a survey and who volunteered to talk about their e-health services consumption, and whose e-services consumption behavior is well advanced (despite different experience levels). Thus, generalizing our results to all "Internet users" is not plausible at this level. It would also be interesting that future research would conduct longitudinal studies that would measure the impact of information search experience on patients' behavior and their relationship with healthcare professionals.

References

1. Anderson J.G; Rainey M.R. ET Eysenbach G. (2003), The impact of Cyber Health on the physician-patient relationship, Journal of Medical Systems, vol 27, n 1, p.67-84.

2. Bundorf MK, Wagner TH, Singer SJ, Baker LC (2006). Who searches the internet for healt information? Health Serv Res;41:819-36. 120.

3. Bansil P, Keenan NL, Zlot AI, Gilliland JC. Health-related information on the Web: results from the HealthStyles Survey, 2002-2003. Prev Chronic Dis. 2006;3:A36.
4. Wilkins.A.S, (1999) "Expanding internet access for health care consumers", Health Care Management Review, 24, 30-41.

_____

5. Ayonrinde.O (1998), "Patients in cybespace: information or confusion", Postgraduate Medical Journal, 74, 449-450.

6. Romeyer H (2008), «TIC et santé : entre information médicale et information de santé , tic&société – 2(1)

7. Paganelli C , V.Clavier., M.C.Manes-Gallo , E. Mounier , H. Romeyer , A. Staii (2008)., Web participatif et santé : de nouveaux rapports à l'information ? , dans Actes du colloque Web participatif : mutation de la communication ?, 6 au 8 mai 2008,Québec (Canada),Presses de l'université du Québec ,.

8. Ferguson T, 2004 « The first generation of e- patient », British Medical Journal; 328, 1148-9

9. Robinson T.N, K. Patrik , R. Eng .and D. Gustafson (1998), "An evidence –based approach to interactive health communication: a challenge to medicine in the information age", Journal of the American Medical Association, 280, 1264-1269

10.Totterdel B et Bird J, (1976), The effective public library, Library Association,

11.Eysenbach G , (2001), What is e-health?, Journal of Medical Internet Research, 3, 2, e20,

12.EysenbachG,, J.G. Anderson et M.R. Rainey, (2008), "the impact of Cyber Health on the physician-patient relationship", Journal of Medical Systems, vol 27, n 1, 2008, p.67-84.

13.Anderson, J.G; Rainey, M.R. et Eysenbach,G. (2003), The impact of Cyber Health on the physician-patient relationship, Journal of Medical Systems, vol 27, n 1, p.67-84.

14.Wald Hedy S. , Dube Catherine E., Anthony David C. (2007), " Untangling the Web—The impact of Internet use on health care and the physician–patient relationship", Patient Education and Counseling 68 ,218–224

15.Pemberton P et Goldblatt J (1998), " The Internet and the changing roles of doctors, patients and families : It's time to embrace the concept of the informed patient and use their websurfing skills"; MJA ; 169: 594-595

16.Sampieri-Teissier N ; Sauviat I (2001) , « Les évolutions du positionnement des acteurs du système hospitalier : le cas de la situation du patient-usager-client », Laboratoire du CRET-LOG ; Laboratoire du CEREGE, Université de la Méditerranée, Université de Limoges,.

17.R. Beuscart , Rapport sur les enjeux de la Société de l'Information dans le domaine de la Santé ,2000 .

18.P. Korp, « Health on the Internet: implication for health promotion », in Health Education Research, vol. 21, no 1, 2006, pp 78 à 86.

19.S. Nettleton et al. , E-Scaped Medicine? Information, Reflexivity and Health Critical Social Policy May 2003 , 23: 165-185,

20.J. Car et A. Sheikh, Information in practice: Email consultations in health care: 1—scope and effectiveness, BMJ Volume 329, 2004

21.J.P Kassirer , "The next transformation in the delivery of health care", New England of Medecine 332, n 1, 1995

22.R.D. Fletcher , R EDayhoff , CM Wu , A. Graves , R E Jones . "Computerized medical records in the Department of Veterans Affairs". BMJ 2001;322:835-840

23.S E . Ross , C .Lin ., "The effect of promoting patient access to medical records; a review". J Am Med Association, 10, 2003, 129-38

24.K .B. Sheehan , "In Poor Health: An assessment of privacy policies at direct –to-consumer web sites", Journal of Public Policy and Marketing, Vol.24 Issue2, 2005, p 273 -283, 11p

25.H.Khechine, D.Pascot, P.Prémont, "Le rôle de l'information sur Internet dans la

_____

_____

consommation médicale : le cas des patients canadiens francophones et anglophones", Systèmes d'information et management, Vol. 11, No. 3, 2006, pp. 3-35

a. Laing,, G. Hogg, , et D. Winkelman , Healthcare and the information revolution: re- configuring the healthcare service encounter", Health Services Management Research, Aug, 17, 3, 2004, p.188

26.J. Fox,J. Nicholas., W. Katie and J. O. Alan Rourke , "The 'expert patient': empowerment or medical dominance? The case of Weight loss, pharmaceutical drugs and the Internet", Social Science and Medicine, 60,1999, 1299-309.

27.J.J. Davis, « Disenfranchising the disabled: The inaccessibility of Internet – based health information", Journal of Health Communication, 7,2002, 355 -367

28.T. Houston et J. Allison J, Users of Internet Health Information: Differences by Health Status". J Med Internet Res 2002; 4(2):e7

29.S. Vick, A. Scott , Agency in health care, examining patient 'preferences for attributes of the doctor-patient relationship", Journal of Health economics, vol. 17,1998.

30.Rosenstoch, , V.J. Strecher, et M.H.Baker , Social learning theory and the health belief model", health education quart, 15,1988, 175 -183 .

31.J. Dowie, Evaluating programs designed to deliver evidence-based and preference driven guidance in the clinical setting. The role of patient's meta-preferences, Inserm, 2000.

32.E. Renahy , I. Parizot , S. Lesieur , P. Chauvin, Enquête Whist : Enquête web sur les habitudes de recherche d'informations liées à la santé sur internet, Institut national de la santé et de la recherche médicale, Université Pierre et Marie-Curie , 2007.

33.C. Kalichman , Internet-Based Health Information Consumer Skills Intervention

for People Living With HIV/AIDS "; Journal of Consulting and Clinical Psychology 2006, Vol. 74, No. 3, 545–554

34.V. Venkatesh,,M. G. Morris.; G.B. Davis, and F.D. Davis, "User acceptance of information technology: Toward a unified view", MIS Quarterly 27(3): 2003, 425–478.

35.S. Bamberg, I. Ajzen, et P. Schmidt, Choice of Travel Mode in the Theory of Planned Behavior: The Roles of Past Behavior, Habit, and Reasoned Action. In: Basic and Applied Social Psychology 25. S. 175-188, 2003.
36.S. Fox et L. Rainie, Vital decisions: How Internet users decide what information to trust when they or their loved ones are sick. Washington, DC: The Pew Internet & American Life Project, 2002.

37.S.S. Dickerson and P.F. Brennan, P.F, The Internet as a catalyst for shifting power in provider-patient relationships. Nursing Outlook, 50(5), Sep-Oct, 2002,195-203.

38.Pew Internet and American Life , "The online health care revolution: haw the web helps Americans take better care of themselves", Principal authors: Susannah Fox and Lee Rainie, http://www.pewinternet.org/report/pdfs/ pip_health_report.pdf, 2000

39.Ellis, David, Ellis's model of information seeking behavior. In Theories of Information Behavior, sous la direction de Karen E. Fisher et coll., 138–142. Medford (New Jersey) : Information Today, 2005

40.D.J Cox ; L.M Ritterband; L.A Gonder-Frederick; A.D. Clifton; R. W West.; S.M. Borowitz, Internet interventions: In review, in use, and into the future Professional Psychology: Research and Practice, Vol 34(5), Oct 2003, 527-534.

41.Fox S and Rainie L. Vital decisions. How Internet users decide what information to trust when they or their loved ones are sick. Washington, DC: Pew Internet & American Life Project, 2002: 43 p

_____

_____

42. Licciardone JC, Smith-Barbaro P and Coleridge ST. Use of the Internet as a resource for consumer health information: Results of the second osteopathic survey of health care in America (OSTEOSURV-II). J Med Internet Res 2001; 3: e31.

43. Lemire M., C. Sicotte et G. Paré, (2008), « Internet use and the logics of personal empowerment in health », Health Policy, doi:10.1016/j.healthpol.2008. 03.006.

44. Liz, Lundgren et Juanita (2005), Training patients to ask information verifying questions in medical interviews, Health Education, Vol 105, pp. 454-466

45. Maheu, M.M, Whitten,P,et Allen, A. A. (2001), E-health,Telehealth,Telemedecine : Aguide to start-up and success (première édition), San Francisco, Jossey-Bass.Inc, Management, 26(6) 225-236.

46. Morgan R.M et Hunt S.D. (1994), « The Commitment- Trust Theory of Relationship Marketing », Journal of Marketing, vol 58, n°3, pp.20-39.

47. Morris T., Guard J., Marine S., Schick L., Haag D., Tsipis G., Kaya B. et Shoemaker S., (1997), Approaching Equity in Consumer Health Information Delivery - Netwellness, Journal of the american medical informatics, 4, 1, 6-13.

48. Mukherjee, A., McGinnis, J. (2007). E-healthcare: An analysis of key themes in research. International Journal of Pharmaceutical and Healthcare Marketing, 1(4),349-363.

49. Nabarette   H   (2002), « L'Internet médical et la consommation d'information par les patients », Réseaux, vol4, n° 114, pages 249 à 286, Lavoisier.

50. Peterson MW and Fretz PC. Patient use of the Internet for information in a lung cancer clinic. CHEST 2003; 123: 452-57.

51. Pew Internet and American Life (2000), "The online health care revolution: haw the web helps Americans take better care of themselves", Principal authors: Susannah Fox and Lee Rainie, http://www.pewinternet.org/report/pdfs/ pip_health_report.pdf.

52. Pleace N., et al., (2000), On-line with the friends of Bill W: social support and the net, Sociological Research Online, 5,2 (8 January 2003).

53. Prax J-Y. (2003), Le Manuel du Knowledge Management, une approche de 2e génération, Paris, Dunod.

54. Roberts K., Varki S., Brodie R., (2003), Measuring the quality of relationships in consumer services: an empirical study, European Journal of Marketing, 37, 1/2, 169 – 196.

55. Roselund T., Lovich D., Lubkeman M. et Flanagan A. (2004), Biopharmaceutical marketing excellence: Driving business results, International Journal of Medical Marketing, Vol. 4 Issue 3, p209-218, 10p

56. Wagner, Todd H., Tehwei Hu, and Judith H. Hibbard (2001), The Demand for Consumer Health Information, Journal of Health Economics, 20, 1059-7

57. Wald Hedy S. , Dube Catherine E., Anthony David C. (2007), " Untangling the Web—The impact of Internet use on health care and the physician–patient relationship", Patient Education and Counseling 68 ,218–224

58. Wikgren M., (2001), Health discussions on the Internet: A study of knowledge communication through citations, Library & Information Science Research, 23, 305–317.

59. Wilkins A.S (1999), "Expanding internet access for health care consumers", Health Care Management Review, 24, 30-41

60. Wong A., Soh A., (2002), An examination of the relationship between trust, commitment and relationship quality, International Journal of Retail & Distribution Management, 30, 1

_____