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Israeli E-patients' Informational Needs

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ABSTRACT

Background: Online medical information has transformed the way patients obtain information.

Purpose: The present study examined patients' informational needs and the patient- Healthcare Provider (HCP) relationship from the perceptions of both patients and HCP.

Methods: The study was a cross-sectional study; data were collected in Israel from100 HCPs (nurses and physicians) and 184 e-patients.

Findings: E-patients were comfortable sharing e-information with their HCP and expected them to consider the e-information in treatment decision-making. Physicians thought they provided more information than the patients considered that they received from them, while both nurses and patients were in agreement about their interactions. Patients thought that there was a higher concordance between the e-information and the information they received from the physician/nurse as compared to what physicians and nurses reported.

Discussion and Conclusions: E-health information does not disrupt the patient-nurse/physician relationship. To promote compliance to treatment, it is important that HCPs consider information presented by patients when preparing the treatment plan.

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Introduction

The ease of accessibility to online medical information has transformed the way patients obtain information regarding their health. The internet has become an "available to all medical library" and has given rise to the informed e-patient (Seçkin, Yeatts, Hughes, Hudson, & Bell, 2016) who searches the internet for information about his/her health condition (Akerkar & Bichile, 2004). Fox (2007) referred to patients who search the internet for e-health information about their disease as e-patients. The present study adopted this definition. That is, e-patients in this study are those who search for e-health information about their disease.

Health information is the most popular searched topic on the web. The Pew Internet and American Life project reported that 87% of American adults use the internet, and that 72% of all American adults seek health and health-care information online (Fox, 2014). The reasons that patients search for health information on the internet include the patient's feelings about the quality of communication with their physician (Xiao, Sharman, Rao, & Upadhyaya, 2014), the

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need for more information (Clarke et al., 2016), and to strengthen and verify the information provided by health-care workers (Tan & Goonawardene, 2017). Another study conducted recently in Israel reported that the main reasons for Crohn's disease patients to search for e-health information were in order to obtain more information about nutrition, and to learn about the disease and associated procedures (Niv et al., 2017). However, despite the wealth of available information, patients still have informational needs that the internet cannot supply and they still want to receive information from their health-care providers (HCP). Information received from HCP, and physicians were found to be the most trusted source of information (Clarke et al., 2016). Although, most of these studies were conducted in countries other than Israel, it is reasonable to assume that the needs of patients related to using internet based information are similar.

An important part of the role of nurses and physicians has always been to provide information to their patients. However, the availability of e-health information is empowering for patients, allowing them to communicate with their HCP and take an active role in the decision-making process (Luciano, Cumming, Wilkinson, & Kahana, 2013). It follows that informed patients might have new expectations and informational needs. However, these new encounters between HCP and e-patients may be perceived differently by the two sides.

Some studies have reported positive reactions from HCPs toward patients who bring internet medical information to consultations (Barnoy, Volfin-Pruss, Ehrenfeld, & Kushnir, 2008; Giveon, Yaphe, Hekselman, Mahamid, & Hermoni, 2009), and that the positive response improved patient satisfaction with their interaction with their HCP (Russ, Giveon, Granek Catarivas, & Yaphe, 2011). However, according to other studies, physicians believe that patients' use of the internet generates misinformation, leading to confusion and distress (Ahmad, Hudak, Bercovitz, Hollenberg, & Levinson, 2006). Forkner-Dunn (2003), reported that physicians were concerned about the reliability of internet health information, and worried by the threat that informed patients could pose to their authority (Hart, Henwood, & Wyatt, 2004). Relatively few studies have considered nurses' attitudes and reactions to e-health information, although one study reported that nurses felt more positive toward e-health information from a reliable site (Medline), as compared to that retrieved from an unreliable site (Ynet, a local news site) (Barnoy, Volfin–Pruss, Ehrenfeld, & Kushnir, 2011).

Undoubtedly, e-health has the potential to empower e-patients and promote their health and disease management (Bolle et al., 2015). However, if the e-health information gleaned contradicts the recommendations of the HCP, it may represent a source of frustration to the patient and give rise to noncompliance with recommendations. Indeed, it has been reported that e-patients who encounter contradictory information about medication from different sources (physicians, pharmacists, nurses, and internet) display a reduced adherence to their medication regime (Carpenter et al., 2010). Another possible issue is that resistance of physicians to discuss the e-health information brought by patients, might raise concerns and result in frustration (Tan & Goonawardene, 2017). E-patients who expected to be partners in therapeutic decisions were frequently dissatisfied when information that they contributed was ignored by their physician during treatment decision-making (Erdem, & Harrison-Walker, 2006). A recent qualitative study reported that e–patients with diabetes were disatisfied because, although they considered themselves knowledgeable about their disease, they felt that the power remained in the hands of the physicians (Politi, Wolin, & Légaré, 2013). The purpose of this study was to examine Israeli e-patients' informational needs and the effect of e-health information on HCP–patient relationship as perceived by each party.

Research questions:

1. What informational needs do e-patients have, and what information would they like to receive from the HCPs (nurses and physicians)?
2. Do HCPs (nurses and physicians) fulfill e-patients' needs?
3. Does e-health information affect the e-patient-HCP (nurses and physicians) encounter and relationship?

Methods

Design and Sample

Design: This was a cross-sectional study in which e-patients who were being discharged from the hospital and their providers completed questionnaires. The sample consisted of 184 e-patients living with a chronic disease and 100 staff members (52 nurses and 48 physicians). The average age of the patients was 40.43 ± 16.63, while that of the physicians was 43.16 ± 11.50, and that of the nurses was 44.00 ± 10.97. Of the patients, 78% were female, and almost all the nurses were female, and most physicians were males (81%). Most patients were Israeli born (75%), while only 38% of nurses and 60% of physicians were Israeli born. The majority of patients (72.8%) indicated that they searched for health information about their disease and treatment options on the internet very often to always. The mean extent of patients' search for e-health information (scale ranging 1–5) was M = 3.83; SD = 1.24. In contrast, the mean extent of encounters with e-patients was M = 3.41; SD = 0.98 for physicians and M = 2.51; SD = 0.95 for nurses.

Ethical Considerations

The study was approved by the Helsinki committee of the hospital where the research took place.

Measures

A questionnaire based on the literature was constructed for the study in two versions, one for patients, and one for the staff (nurses and physicians). The items relating to internet information and its influence on e-patient–HCP relationship were based on Barnoy et al. (2008), Wilson (1999). In Barnoy et al. (2008), the Cronbach alpha of the attitude questionnaire was 0.707. The items relating to patients' informational needs and guidance and HCPs providing information to patient were based on a "patient experience survey" conducted by the Israeli Ministry of Health (Aka Zohar, Greenbaum-Arizon, & Binder-Bachrah, 2015). The Cronbach alpha of the questionnaire was 0.845. The questionnaires were face validated by two nurses and one physician, all experts in informatics, who were requested to indicate which items measure patients' "informational needs and the influence of e-health information HCP–patient relationship." Only items about which the judges were in full agreement were included in the final questionnaire.

The patients' questionnaire was comprised of two sections.

Section 1: Sociodemographic data (age, gender, country of birth, and education level), and two questions concerning internet access: a yes/no question regarding internet access at home, and a second question related to the frequency of retrieving internet health information. Section 2: This section comprised of 19 items built based on the literature consisting three scales identified by exploratory factor analysis with varimax rotation that yielded three constructs: (a) informational needs, included four items representing the need for explanations and information from physicians and nurses. The Cronbach alpha for this section was 0.68, (b) information and guidance received from physicians and nurses, consisted of five items. The Cronbach alpha of this section was 0.78, (c) 10 items related to the perceived influence of e-health information on patient–nurse/physician relationships. The Cronbach alpha of this section was 0.78. Patients were requested to mark their agreement with each item on a scale ranging from 1 (never) to 5

Table 1 – Patient's Study Questionnaire, Mean and Standard Deviation (SD) of Each Item

Informational Needs	Mean ± SD
1. To What Extent did You Need Information About Your Condition From the Physician?	4.04 ± 1.10
2. To What Extent did You Need Information About Your Condition From the Nurse?	4.05 ± 1.05
3. To What Extent was the Information the Physician Provided You About Your Condition New for You?	3.33 ± 1.41
4. To What Extent is the Information the Nurse Provided You About Your Condition New for You?	3.08 ± 1.40
Information and Guidance Received From Physicians and Nurses	**Mean ± SD**
5. During Your Hospitalization, to What Extent did You Receive an Explanation About Your Condition From a Physician?	4.06 ± 1.04
6. During Your Hospitalization, to What Extent did You Receive an Explanation About Your Condition From the Nurse?	4.13 ± 1.10
7. To What Extent Does the Physician Initiate a Discussion Regarding Your Condition With You?	3.14 ± 1.37
8. To What Extent Does the Nurse Initiate a Discussion Regarding Your Condition With You?	3.50 ± 1.35
9. To What Extent did the Information You Found on the Internet Match the Information Provided by the Medical Staff?	3.84 ± 1.05
Perceived Influence of E-Health Information on Patient–Nurse/Physician Relationships.	**Mean ± SD**
10. To What Extent Does the Physician Relate Seriously to Your Questions?	4.22 ± 1.20
11. To What Extent Does the Nurse Relate Seriously to Your Questions?	4.31 ± 1.06
12. How Comfortable do You Feel to Share With the Physician the E-Information You Found?	3.74 ± 1.26
13. How Comfortable do You Feel to Share With the Nurse the E-Information You Found?	3.81 ± 1.23
14. How Often Were you Referred by the Staff to Read About Your Condition?	2.79 ± 1.40
15. To What Extent do You Feel the Physicians' Attitude Towards You Changes When You Express Knowledge Regarding Your Condition?	2.95 ± 1.45
16. To What Extent do You Feel the Nurses' Attitude Towards You Changes When You Express Knowledge Regarding Your Condition?	3.07 ± 1.40
17. To What Extent do You Expect the Physician to Use the Information You Found as Part of Your Treatment Planning?	3.27 ± 1.42
18. To What Extent do You Expect the Nurse to Use the Information You Found as Part of Your Treatment Planning?	3.27 ± 1.38
19. To What Extent Does Medical Information You Possess Influence the Cooperation With the Physician?	3.27 ± 1.37

(always). Table 1 presents the items in the patients' questionnaire.

The HCP questionnaire also comprised two parts:

1. Sociodemographic data (age, gender, country of birth, profession, seniority, and professional education), and one question regarding the experience of encounters with e-patients. The question was: "to what extent do you encounter patients who provide information about his/her illness from the internet?" Replies ranged between 1 (very rarely) to 5 (very often).
2. This section included 12 items related to providing information to patients, and the influence of internet-derived information on their relationship with the patient. Nurses and physicians were requested to mark their agreement with each item on a scale ranging from 1 (never) to 5 (always), see Table 2. The Cronbach alpha of the HCP's questionnaire was 0.76.

Data Analysis

Data were analyzed using the IBM SPSS English version 24.0 software (SPSS Inc., Chicago, IL). Means and frequencies were used as descriptive statistics for personal characteristics and for the main research variables. The *t* tests for independent samples were performed to examine the differences between the questionnaires completed by the patients and those of the HCP and between nurses and physicians. Paired *t* tests were performed to examine differences between items in the patients' questionnaires. Multiple linear regressions were performed to measure associations between the sociodemographic and the research variables.

Procedure

The study took place in Israel. After approval by the hospital's Helsinki committee, a pretest study on 20 patients and 10 staff members was conducted. After consideration of the participants' responses, some items were rephrased for clarity.

Questionnaires were distributed by one of the researchers to Israeli nurses, physicians, and patients with chronic diseases hospitalized in medical–surgical wards. Before completing the questionnaire, the participants received a short explanation regarding the aim of the study. Altogether, 250 questionnaires were distributed to patients, with 200 returned, yielding a response rate of 80%. This compared to 60 questionnaires distributed to physicians with 48 returned (response rate = 80%) and 60 distributed to nurses with 52 returned (response rate = 86%).

All patients who were hospitalized for at least 48 hours were invited to participate in the study, and those who gave their consent were requested to complete the questionnaire. Those who stated that they never searched the internet for medical information were excluded from the sample. The final patient population comprised 184 e-patients. Questionnaires were also collected from nurses and physicians working in the same wards and a total of 52 nurses and 48 physicians participated in the study.

Findings

To identify the patients' characteristics related to the extent of e-health information search, a stepwise multiple linear regression was performed. The independent variables were: age, education, and sex. The results show that education and being older were related to more search for e-health information ($F = 7.55$, $p = .007$; $F = 4.21$, $p = .04$, respectively). See Table 1.

E-Patients Informational Needs

The results indicated that patients considered their informational needs from nurses to be similar to those from physicians-items 1-2, ($t_{(179)} = 0.13$, $p = .89$), although they estimated that they received more new information from physicians than from the nurses, items 3-4. This difference was significant ($t_{(179)} = 3.74$, $p < .001$).

Multiple regression analysis indicated that there was no correlation between informational needs and age, sex, education, having a computer connected to the internet, or to frequency of seeking internet information about their disease (Model's $F = 0.97$, $p = .43$).

Information and Guidance Received From Physicians and Nurses

Although patients stated they received a similar amount of information from nurses and physicians items 5-6, ($t_{(183)} = 0.95$, $p = .34$), patients perception was that nurses initiated more discussion with the patients, items 7-8 ($t_{(182)} = 4.08$, $p < .001$). There was apparently no association between receiving guidance from the staff and age or education of the patient (Model's $F = 0.49$, $p = .60$).

E-Patients' Perception of the Influence of E-Health Information on Patient–Nurse/Physician Relationships

The results showed that patients felt that both physicians and nurses related seriously to their questions, 10-11 ($t_{(182)} = 1.11$, $p = .27$). E-patients were quite comfortable with sharing the e-information with nurses and physicians, items 12-13 ($t_{(180)} = 1.15$, $p = .25$), and felt that the attitudes of physicians and nurses toward them changed somewhat after showing that they were knowledgeable about their disease, items 15-16 ($t_{(181)} = 1.61$, $p = .11$). E-patients expected their

Table 2 – Nurse's and physicians study questionnaire: Means ± SD; t-tests for comparison between the professions

Item	Nurses (N = 52) Mean ± SD	Physicians (N = 48) Mean ± SD	Levene's Test for Equality of variance F sig	t-test for Equality of Means	
				df	tp values[#]
1. To what extent do provide information to your patients' about their condition and treatment	4.09 ± .77	4.75 ± .48	[*].00 p = .98	98	5.02 p = .0001
2. To what extent does internet information provided by e-patients influence your cooperation with him/her	3.05 ± 1.09	3.37 ± 1.14	[*].74 p = .39	98	1.42 p = .16
3. To what extent does the information brought by the e-patients match the information you provide	3.53 ± .77	3.33 ± .90	[*]1.22 p = .27	98	1.21 p = .22
4. To what extent are you satisfied with the information e-patients present	3.52 ± 1.03	3.35 ± .86	[*]1.93 p = .16	98	.86 p = .39
5. To what extent is the information presented by e-patients new for you	3.11 ± 1.04	3.54 ± 1.21	[*]3.53 p = .06	98	1.88 p = .06
6. To what extent do you feel that your professional status is affected by e-patients	2.52 ± 1.24	3.16 ± 1.11	[*]2.75 p = .10	98	2.73 p = .008
7. To what extent are discussion with informed patients longer	3.23 ± 1.16	3.33 ± 1.01	[*]1.29 p = .26	98	.48 p = .64
8. To what extent do you feel that informed patients are more demanding	3.75 ± .86	3.77 ± 1.03	[*]1.28 p = .26	98	.11 p = .91
9. To what extent do informed patients have higher expectations to be involved in their treatment decision making	3.94 ± .80	3.79 ± .98	[*]3.71 p = .06	98	.84 p = .39
10. To what extent does an e-patient that presents e-information influence your decision making	2.76 ± 1.04	2.95 ± 1.30	[**]4.74 p = .03	98	.36 p = .72
11. To what extent do you initiate discussions with e-patients	3.71 ± .87	3.39 ± 1.12	[*]2.96 p = .08	98	1.57 p = .11
12. To what extent do you think that the e-patients expect you to use the information they provided as part of the decision making	3.55 ± .1.05	4.06 ± .80	[**]6.49 p = .01	98	2.69 p = .008

[*] Equal variance assumed.
[**] Equal variance not assumed.
[#] significant value p<.05

physicians and nurses to use the information they provided to them as part of their treatment plan items 18-19 ($t_{(180)} = 0.32$, $p = .75$).

A multiple regression analysis revealed no association between the perceived effect of e-information on the relationship with physicians and nurses and sex, age, education, having a computer connected to the internet, or to the frequency of seeking disease–related internet information (Model's $F = 1.63$, $p = .15$).

Physicians and Nurses Encounters with E-Patients

To identify the characteristics of the HCP which encountered more e-patients, a multiple regression was performed. The dependent variable was the extent of encounters with e-patients and the independent variables: age, profession (nurse/physician), seniority at work, and place of birth. Only profession was significant, showing that physicians had encountered more e-patients than nurses ($F = 21.26$, $p = .0001$).

As shown in Table 2, physicians stated that they provide more information to their patients than do nurses. However, the physicians also felt that their professional status was affected by e-patients to a greater degree than nurses. In addition, they appreciated, more than the nurses, the expectations of e-patients to use the e-information in treatment decision–making. There was a consensus between nurses and physicians on all

the other items with no significant difference between scores.

The Varied Perceptions of Nurses and Physicians vs Patients

The identical items in the questionnaires for patients and HCP allowed for a comparison between the three groups. As shown in Table 3A and 3B, physicians thought that they provided more information than the patients perceived that they received from them, and they also over estimated patients' expectations of them to use the information the patients provided in the treatment plan. In contrast, nurses and patients had similar perceptions of the amount of information the nurses provided and both sides were in consensus about the use the nurses were expected to make of the information.

One way ANOVA was applied to examine the perceptions of the compatibility between the information contributed by patients, nurses, and physicians (Table 1 item 9 and Table 2 item 3), revealed a significant difference between the groups. Interestingly, patients rated the compatibility of the information significantly higher than did nurses and physicians ($F_{(280)} = 5.78$, $p = .03$).

Discussion and Conclusions

The present study examined the informational needs of inpatients and the impact of e-health information on the patient-HCP relationship from the perspective of both patients and HCP. The results show that a high proportion of patients search for e-health information about their disease on the internet and that age and having academic education were related to more frequent searching. It is plausible that older patients are living with their chronic disease for longer, hence have searched for more information about their disease. Higher education may help and encourage searches for information on the internet. A recent U.S. national health interview survey found a similar trend (Amante, Hogan, Pagoto, English, & Lapane, 2015). Patients' education level was not related to other research variables.

Interestingly, patients thought that the information they retrieved was more compatible to the information provided by the HCP in comparison to HCP's view. This leads to a well-known problem of patients' ability to evaluate the reliability of health information. It has been reported that most e-patients search for information using search engines (Seçkin, 2014) and fail to use valid criteria when assessing e-health information's reliability (Weaver, Thompson, Weaver, & Hopkins, 2009). Many time patients overestimate the reliability and accuracy of the information they found (Seçkin et al., 2016). A recent study found that even young students found it difficult to assess the credibility of e-health information (Rennis, McNamara, Seidel, & Shneyderman, 2015).

Very importantly, health information did not negatively affect the HCP–patient relationship and patients felt that both nurses and physicians related seriously to the data. Better patient compliance has previously been reported when health-care workers relate seriously to patients' questions and knowledge (Croker et al., 2013). Moreover, a recent study reported that positive attitudes and legitimation by HCP has a positive effect on patient engagement (Graffigna, Barello, Bonanomi, & Riva, 2017). Although patients might be reluctant to discuss the e-health information they retrieved (Dedding, Van Doorn, Winkler, & Reis 2011). In the

Table 3A – Comparison between physicians and e-patients views; Means ± SD and t-tests

		Mean ± SD	Levene's Test for Equality of variance F Sig	t-test for Equality of Means df	tp value#
Physician	To what extent do you provide information to your patients' about their condition and treatment	4.75 ± .48	*23.29 p<.001	230	6.52 p<.001
Patient	During your hospitalization, to what extent did you receive an explanation about your condition from the physician	4.06 ± 1.04			
Physician	To what extent do you think that the e-patients expect you to use the information they provided as part of treatment decision making	4.06 ± .80	*24.99 p<.001	230	3.79 p<.001
Patient	To what extent do you expect the physician to use the information you found as part of your treatment planning	3.27 ± 1.42			

* Equal variance not assumed
\# significant value p<.05

Table 3B – Comparison between nurses and e-patients views; Means ± SD and t-tests

		Mean ± SD	Levene's Test for Equality of variance F Sig	t-test for Equality of Means df	t-test for Equality of Means tp value#
Nurse	To what extent do you provide information to your patients' about their condition and treatment	4.09 ± .77	*7.92 p = .005	234	0.24 p = .80
Patient	During your hospitalization, to what extent did you receive an explanation about your condition from the nurse	4.13 ± 1.10			
Nurse	To what extent do you think that the e-patients expect you to use the information they provided as part of the decision making	3.55 ± .1.05	*14.44 p = .00	231	1.36 p = .17
Patient	To what extent do you expect the nurse to use the information you found as part of your treatment planning	3.27 ± 1.38			

* Equal variance not assumed
\# significant value p<.05

present study, patients reported that they felt comfortable to share the information they found with their HCP. This phenomenon might stem from the Israeli culture, which is characterized by informality, directness (Mills, & Grainger, 2016), and a lack of boundaries between authorities. Hence Israeli patients might feel more comfortable sharing their knowledge with the HCP, and expect to be equal partners in the decision making process.

Our results also show that while the e-patients want to receive information from the HCP they also expect the HCP to act on information that is given by them. This reflects a desire to participate in the decision making process (Xie, Wang, Feldman, & Zhou, 2013; Xie, Wang, Feldman, & Zhou, 2014). Physicians in our study perceived a threat to their status as a result of the encounters with informed patients. This indicates the changing climate where the classical paternalistic patient–provider relationship, in which physicians were the sole arbitrators of the best treatment for their patients, is shifting to the patient–centered care model. While the previous relationship put the HCP in a powerful position, in recent years patients and HCP have become equal partners in the decision making process (Charles, Gafni, & Whelan, 1999). This is a consequence of the availability of health information on the internet, which is altering the power relationship (Koch, 2012), and generating well informed patients who are "experts" about their disease (Suziedelyte, 2012), and who may even propose treatment options to their HCP. As a result, encounters with informed patients might make physicians feel less powerful. Because the nursing role is more holistic (Kolcaba, 1994), and nurses are present 24/7 by the patients' bedside, they tend to form close relationships with them, so that encounters with e-patients probably pose less threat to the professional status of the nurse.

Although patients searched for information about their disease on the web, they still wanted to receive information from their HCP, indicating that inpatients require more than one source of input. This finding is in line with previous studies that found that although the internet is the most accessible source for medical information, patients still want to receive information from their HCP, and that e-health information does not replace the HCP (Clarke et al., 2016). Relying on more than one information source might lead to contradiction between the sources. As reported in a recent study that about one-fifth of patients that used more than one information source experienced conflicting information (Hämeen-Anttila et al., 2014). As most patients search for e-health information in HCP–patients encounters it is important to relate to patients information in order to avoid conflicts between the different sources of information.

Patients in our study indicated that they wanted and needed information from both physicians and nurses, and that they received similar amounts of information from both of them. This was accurately appreciated by nurses although physicians thought they supplied more information than the patients perceived that they received. These results point to an egocentric attitude of the physicians when evaluating the amount of information that they actually supplied. This divergent bias often happens when providers assess their clients' needs. As satisfying patients' informational needs is an essential part of patient centered care (Rathert, Wyrwich, & Boren, 2013), it is essential to evaluate the information provided to patients correctly. Interestingly, nurses were more accurate in their evaluations, probably because they are in close contact with the

patients 24/7, which promotes the formation of closer relationships. In addition, the present results indicated that nurses initiated more conversations with their patients compared to physicians, which might have increased the correspondence between the evaluations of patients and nurses of the information provided by the nurse.

Limitations

The study's conditions for patients and providers were not fully equivalent. Patients' were requested to respond on their personal experiences and needs during their hospitalization, while the HCP responses were based on their collective assessment of patients' needs. In addition, HCP length of experience with e-patient portals might have influenced the results. It is recommended to perform further studies in paired samples of patient-HCP, which assesses a specific HCP/patient, referring also to HCP experience with e-patients portals.

Conclusions

Patients felt comfortable to share their knowledge but this had a tendency to threaten the physicians' authority showing that e-health information does not disrupt patient–nurse/physician relationship. Although most patients searched the internet for information about their illness, they still had informational needs and expected to receive input from their HCP, showing that the internet has not yet replaced the HCP.

Practice Implications

The results of the present study imply that nurses and physicians need to assess patients' informational needs, and provide them with the necessary information by initiated discussions. Nowadays most chronic patients are e-patients. Since the information presented by the patients is not always reliable, HCP should refer them to reliable sites and help them understand the information they retrieve. Training patients to identify reliable health information is warranted. In addition, developing a quality standard for online health sites is advisable.

Supplementary materials

Supplementary material associated with this article can be found in the online version at doi:10.1016/j.outlook.2018.11.003.

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