



UvA-DARE (Digital Academic Repository)

Are They Important? Patients' Communication Barriers to Discussing Online Health Information During Consultations

Linn, A.J.; van Weert, J.C.M.; Bylund, C.L.

DOI

[10.1080/10410236.2023.2197311](https://doi.org/10.1080/10410236.2023.2197311)

Publication date

2024

Document Version

Final published version

Published in

Health Communication

License

CC BY-NC-ND

[Link to publication](#)

Citation for published version (APA):

Linn, A. J., van Weert, J. C. M., & Bylund, C. L. (2024). Are They Important? Patients' Communication Barriers to Discussing Online Health Information During Consultations. *Health Communication*, 39(5), 945-950. <https://doi.org/10.1080/10410236.2023.2197311>

General rights


It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations

If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: <https://uba.uva.nl/en/contact>, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.

UvA-DARE is a service provided by the library of the University of Amsterdam (<https://dare.uva.nl>)

Are They Important? Patients' Communication Barriers to Discussing Online Health Information During Consultations

Annemiek J. Linn ^a, Julia C. M. van Weert^a, and Carma L. Bylund^b

^aAmsterdam School of Communication Research/ASCoR, University of Amsterdam; ^bCollege of Journalism and Communications, College of Medicine, University of Florida

ABSTRACT

A minority of the patients who search for online health information report discussing or having an intention to discuss this information with their healthcare provider. Not discussing online health information inhibits the provision of patient-centered care and limits the healthcare provider's possibility to tackle misinformation. Within the confines of the linguistic model of patient participation, we first provide an overview of barriers to discussing online health information during consultations. Second, we pinpoint which of these barriers indicate a need for improvement. Participants from the Netherlands ($N = 300$) completed a survey that measured the communication barriers ($N = 15$) as identified based on previous literature and interviews. Using the Quality Of Care Through the patient's Eyes (QUOTE) approach, we measured the extent to which a specific factor was a barrier ("importance") and assessed whether the barrier would withhold patients from discussing online health information ("performance"). Scores on importance and performance were multiplied to identify which barriers show the most significant room for improvement. Especially "preferring to discuss other matters" often occurred. Nine barriers showed a moderate need for improvement. We discuss the implications of these findings for healthcare providers in consultations. Future research should include observational data to analyze communication barriers to discussing online health information in consultations.

Many patients turn to the internet as their first source of health information (Tan & Goonawardene, 2017). This has become even more important during the coronavirus (COVID-19) pandemic where physical distancing and lockdowns inhibited patients from going to their healthcare providers. Patients use the internet as their first source of information because of the convenience and quickness of the internet and the possibility to save time and money (Huisman et al., 2020). Other reasons include wanting to understand and collaborate with the healthcare provider (i.e., to prepare and to complement), making the final medical decision about the proposed treatment (i.e., to validate or to challenge), or interacting with peers (Caiata-Zufferey et al., 2010; Smith et al., 2009).

Appropriate and timely access to health information can improve patient outcomes, such as being better informed and experienced enhanced social well-being, increased optimism, and greater confidence in healthcare participation (Chung, 2013). Despite this potential, using online health information may also have negative consequences. These consequences occur at three levels: the patient (such as increased levels of anxiety, and non-adherence), the relationship (such as lower trust in their healthcare provider), and the system (such as changes in the patient's use of healthcare services; El Sherif et al., 2018; Sanders & Linn, 2018; Wang et al., 2018).

Several measures can be taken to avoid these negative consequences. First, healthcare providers should refer patients to authoritative, commercial-free, patient-oriented online

information. Second, an open discussion between the patient and the provider about the information patients found online. In these discussions, providers can help the patient to filter, understand and tackle (mis)information. Thus, to facilitate positive outcomes and avoid negative consequences, online health information seeking requires guidance from a healthcare provider (Chen et al., 2018; Huisman et al., 2020; Wang et al., 2018). In particular, the discussion of online health information during medical consultations has been shown to facilitate positive outcomes (Bylund et al., 2010; Nguyen et al., 2019; Sanders & Linn, 2018). However, only half of the patients who search for information online report discussing or having an intention to discuss the information with their healthcare provider (George et al., 2019; Maloney et al., 2015). Not discussing online health information inhibits the provision of patient-centered care; the patient's decision to search for information, the information obtained, and the choice to discuss this information reveals what matters most to the patient (Roper & Jorm, 2017). To increase the number of patients who discuss their online findings with their healthcare provider, we need to gain insight into the communication barriers that patients experience when doing so and how important they are in withholding patients from discussing online health information (Henselmans et al., 2012). Increased understanding of the types of barriers that impede communication about online health information may help in developing effective communication strategies for patients to

initiate and participate in these discussions. A crucial first step in developing these interventions is to identify the barriers with the greatest room for improvement. In doing so, we will build upon the QUality Of Care Through the patient's Eyes (QUOTE) approach (Van Weert et al., 2009). This approach is developed to gain a better insight into which aspects of patient-centered communication needs to be improved. According to this approach, two widely used indicators of patient-centered communication are "importance" (how important a specific healthcare aspect is to a patient) and "performance" (patients' experience with that aspect). When combined, these indicators reflect what patients see as desirable qualities in healthcare. Within the context of this study, the indicator "importance" will measure how significant a specific barrier is to patients, and "the performance" indicator will assess whether the specific barrier would withhold patients from discussing online health information.

Theoretical background

Although several reviews on patient-provider discussions of online health information exist (Chung, 2013; Luo et al., 2022; Tan & Goonawardene, 2017; Wald et al., 2007), none of these reviews specifically focus on which barriers impede communication about online information. Therefore, we will first synthesize the knowledge of communication barriers to discussing online health information. This overview will then guide the development of the questionnaire that will be used to determine areas for improvement of the communication barriers. This knowledge synthesization will be accomplished within the confines of the linguistic model of patient participation in care (Street, 2001). According to this model, enabling factors, predisposing factors, and the healthcare provider's behavior determine the extent to which patients can and will participate during a consultation.

First, predisposing factors include social, psychological, and cultural variables that predispose a patient to participate during a consultation, including beliefs about the appropriateness of their involvement, not wanting to take too much time from their healthcare provider or level of importance. Applied to the context of this study, patients tend to be embarrassed (D'Agostino et al., 2012; Imes et al., 2008; Silver, 2015), believe there is not enough time (Broom, 2005; Bylund et al., 2009; D'Agostino et al., 2012; Imes et al., 2008; Sommerhalder et al., 2009), question the appropriateness in initiating this discussion, or are afraid that the healthcare provider would see them as a problem patient (Broom, 2005; Chiu, 2011). Patients also report that they do not want their healthcare provider to think that they are overly concerned (Bylund et al., 2009; D'Agostino et al., 2012; Imes et al., 2008) or paranoid (Imes et al., 2008). Lastly, patients report not wanting to bother their healthcare provider (Bylund et al., 2009; D'Agostino et al., 2012; Imes et al., 2008; Sommerhalder et al., 2009).

Second, enabling factors include the communicative resources and skills to participate in the consultation (Street, 2001). Important factors are the patient's knowledge about the health issue and the ability to voice their agenda. In the context of communication barriers to discussing online information, patients reported difficulties with discussing online information

when it is of poor quality or too much information (Bylund et al., 2009; Silver, 2015), or (in)accurate (Silver, 2015).

Third, the linguistic model of patient participation also suggests a two-way interaction in which both the patient and the healthcare provider affect the level of participation. In other words, discussing online information is also dependent on the behavior of the healthcare provider (Street, 2001). Applied to the context of this study, previous research reported patients not wanting to step on their healthcare providers' turf; they did not want their healthcare provider to feel offended, challenged, and/or criticized (Broom, 2005; Bylund et al., 2009; Chiu, 2011; D'Agostino et al., 2012; Hart et al., 2004; Hay et al., 2008; Imes et al., 2008; Schrank et al., 2010; Silver, 2015; Sommerhalder et al., 2009; Stevenson et al., 2007). These barriers are based on either the patient's perceptions about the healthcare provider's feelings or something their healthcare provider (or other healthcare providers) had communicated in the past (Imes et al., 2008). Additionally, a healthcare provider's skeptical attitude toward online health information (Bylund et al., 2009; D'Agostino et al., 2012; Imes et al., 2008), the healthcare provider's behavior (e.g., laughing at the patient (Bylund et al., 2009; Imes et al., 2008), not taking the patient seriously (Broom, 2005; Bylund et al., 2009; Kivits, 2006; Stevenson et al., 2007), not being interested (Bylund et al., 2009; D'Agostino et al., 2012; Imes et al., 2008; Silver, 2015), not wanting to listen (Bylund et al., 2009; Imes et al., 2008; Schrank et al., 2010) or previous inhibiting behavior (Broom, 2005; Hart et al., 2004) can hinder patients' willingness to discuss online health information.

Although these studies provide valuable insights into the type of barriers to discussing online information, it is unknown whether these barriers occur in consultations and how important these barriers are to patients in refraining from discussing online health information with their healthcare providers. For this reason, the following research questions will be addressed:

Research Question 1: What are important patient barriers to discussing online health information during medical consultations?

Research Question 2: To what extent do these barriers withhold patients from discussing online health information during medical consultations?

Research Question 3: Which barriers to discussing online health information need to be improved during medical consultations?

Methods

Participants and procedure

This study used a cross-sectional questionnaire. Participants were selected from a large respondent pool by the ISO-certified market research company Flycatcher to participate in a Web-based survey. The total sample was stratified by gender, age, level of education, and region. Inclusion criteria were 1) 18 years or older, 2) able to read and write in Dutch, and 3) having

used the internet at least once in the past year for health-related purposes. A total of 374 unique participants entered the survey (participation rate = 100.0%), and 337 unique participants completed the Web-based survey (completion rate = 90.11%). Six participants were removed because they did not fulfill the inclusion criteria. In total, 331 participants were included in the analyses, 50% were male and participants had a mean age of 48.34 ($SD = 17.1$). Regarding education level, participants were well distributed among the different educational levels (32% low, 40% middle, and 28% high¹). When participants entered the Web-based survey, they were informed about the survey length, their rights (e.g., anonymity), and the contact details of the research institute and principal investigator, and gave informed consent. This study was approved by the ethical committee of the authors' university (2017-PC-8575).

Measurements

Barriers

Based on the literature overview, a first draft of the questionnaire was developed measuring 21 barriers. As previous studies on online health information were conducted in the US or other European countries, we held ten interviews within the Dutch context to explore if new communication barriers emerged. Compared to other European countries, the Netherlands has the highest percentage of internet users. Almost 80% of the Dutch population uses the internet for health information (CBS, 2019) which implies that the internet is well-accepted in the Netherlands. Based on these interviews, the list of barriers as included in the first draft of the questionnaire was adapted; six barriers were removed because they were rather considered a reason than a barrier (e.g., reading online health information for their own learning, trust in the provider, forgetfulness, advice from others), resulting in fifteen communication barriers.

The questionnaire contained five items measuring predisposing factors, two items measuring enabling factors, and eight items measuring factors related to the provider's behavior (see

Table 1). For each of these factors, participants reported if they consider the factor a barrier that withholds them from discussing online health information on a 7-point scale (1 = *strongly disagree* to 7 = *strongly agree*). For example, "When my healthcare provider is skeptical about the health information I looked at online, I consider this a barrier to discussing it with my healthcare provider." After that, they had to assess whether the barrier would prevent them from discussing online health information (on a 7-point scale in which 1 = *strongly disagree* to 7 = *strongly agree*). For example, "When my healthcare provider is skeptical about the health information I looked at online, I would still discuss the online information" (1 = *strongly disagree* to 7 = *strongly agree*).

Analysis

Based on the QUOTE methodology (Van Weert et al., 2009), we calculated for each item composite scores, i.e., Quality Impact Indices (QIIs) by combining the importance of the factor (i.e., the extent to which they feel that the factor is a barrier) and the performance on the factor (i.e., patients' assessment of whether this barrier would prevent them from discussing online health information). The QIIs were calculated by multiplying the score on the perceived barrier with the fraction (%/100) of participants that felt that this barrier would withhold them from discussing online health information. To calculate the proportion of participants that would not discuss online health information due to this barrier, the ratings were recoded into two groups (i.e., response options *strongly disagree*, *partially disagree*, *disagree* were recoded as 0 = *the barrier would not withhold them*; the response options *neutral*, *slightly agree*, *agree* and *strongly agree* were recoded as 1 = *the barrier would withhold them*). For example, with a mean score of 4.30 (on the 7-point performance scale) on the item "when I feel I am a burden to my doctor because I looked up health information online" 10% of the participants reported that this barrier would withhold them from discussing online health information, the QII score would be $4.30 \times 0.10 = 0.52$. A QII score of .60 or more indicates a moderate need for improvement and a QII score of 1.75

Table 1. Importance, performance and QII.

Barriers	Mean importance score	Performance score	QII barriers ¹
Predisposing factors			
When I prefer to discuss other matters with my doctor than the health information I looked up online	3.35 ($SD = 1.62$)	53.5%	1.92
When I feel I am a burden to my doctor because I looked up health information online	4.30 ($SD = 1.82$)	10%	0.52
When I feel embarrassed for looking up health information online	3.93 ($SD = 1.83$)	10.6%	0.47
When there is (too) little time to discuss the online health information	4.42 ($SD = 1.81$)	30.5%	1.63
When I fear my doctor thinks I am too concerned because I looked up health information online	3.51 ($SD = 1.66$)	16.3%	0.70
Enabling factors			
When I think the online information is inaccurate	3.67 ($SD = 1.83$)	26.6%	1.19
When I have read conflicting health information online	3.02 ($SD = 1.61$)	22.4%	0.81
Behavior			
When my doctor is offended because I looked up health information online	4.30 ($SD = 1.99$)	9.1%	0.46
When my doctor is skeptical about the health information I looked up online	3.94 ($SD = 1.79$)	19.0%	0.91
When my doctor doesn't take me seriously when I have looked up health information online	4.54 ($SD = 4.86$)	12.4%	0.68
When my doctor is offended because I looked up health information online	4.51 ($SD = 1.91$)	10.3%	0.56
When my doctor is uninterested in the online health information	4.53 ($SD = 1.80$)	12.7%	0.71
When my doctor does not want to listen to what I have to say about the online health information	4.90 ($SD = 1.76$)	10.3%	0.63
When my doctor was not open to a discussion about online health information during a previous consultation	5.22 ($SD = 1.74$)	11.5%	0.77
When my doctor laughs at me for looking up health information online	4.73 ($SD = 2.12$)	5.7%	0.33

¹A QII score of .60 or more indicated a relatively important barrier and a QII score of 1.75 or more an important barrier.

or more indicates a very clear need for improvement (Brandes et al., 2015).

Results

Perception of the barriers

First, to explore to which extent a factor is a barrier to discussing online health information (RQ1), participants rated the degree to which they thought each of the fifteen factors was a barrier. Table 1 shows the degree to which participants perceived a factor as a communication barrier. The predisposing “when I fear there is too little time to discuss the online health information,” and “when I feel I am a burden to my doctor because I looked up health information online,” received the highest scores. “Possible inaccurate information” was the highest barrier related to enabling factors. When exploring communication barriers related to the behavior of the healthcare provider, “when my doctor was not open to a discussion about the online health information during a previous consultation” and “when my doctor does not want to listen to what I have to say about the online health information” scored the highest (see Table 1).

Barrier performance

Second, we explored whether these barriers would withhold patients from discussing online health information (RQ2). Within the predisposing factors, the barriers “when I prefer to discuss other matters with my doctor than the health information I looked up online” and “when I fear there is too little time to discuss the online health information” scored the highest on withholding patients from discussing online health information during a consultation. Within the enabling factors, the barrier “when I think the online health information is inaccurate” scored the highest. Last, within the behavior category, “when my doctor is skeptical about the health information I looked up online” and “when my doctor is uninterested in the online health information” are the two barriers that scored the highest (see Table 1).

Need for improvement

The composite scores (QIIs), enabled us to pinpoint which barriers should be improved (RQ3). The highest QII score (QII > 1.75) was found for the barrier “when I prefer to discuss other matters with my doctor” (predisposing factor). Nine barriers showed some need for improvement (QII > 0.6). These included not having enough time (predisposing factor), the fear that the doctor thinks a patient is too concerned (predisposing factor) or inaccurate online information (enabling factor), and conflicting health information (enabling factor). Relating to healthcare provider behavior, a skeptical healthcare provider, who is uninterested, who is not taking the patient seriously, or who is not listening were considered barriers with a need for improvement. Lastly, a previous negative experience with a healthcare provider showed a QII of > 0.60 (Table 1).

Discussion

This study contributes to current efforts in conceptualizing and understanding patient participation in care, specifically in the context of discussing online health information. In this study, we found that one predisposing communication barrier (preferring to discuss other matters) was the most influential and showed the biggest room for improvement (QII > 1.75). More than half of the barriers (nine) demonstrated a moderate need for improvement and could be considered less influential (QII > 0.60). These were both predisposing, enabling, and behavioral factors.

Research shows that in 2018, 76.4% of the patients used the internet compared to 49.4% in 2003 (CBS, 2019). Likewise, a survey among cancer patients in the Netherlands reported an increase in use from 60% in 2005 to 85% in 2017 (van Eenbergen et al., 2020). With the internet’s widespread use, it can be expected that healthcare providers will encounter more internet-informed patients. This means that the internet is becoming more and more integrated into the consultation, and providers need to learn to accept that many patients in the consultation room are internet-informed. This trend is also reflected in the medical curriculum where medical students nowadays learn how to work constructively with patients who went online (Masters, 2016). On the one hand, the results of our study reflect this trend by showing that most of the communication barriers only indicated a moderate need for improvement. On the other hand, five of these nine factors were related to the providers’ behavior, which indicates that there is still room for improvement in skills like listening, taking the patient seriously, showing interest, and having a positive attitude toward online health information seeking. What people seek online is an important resource for healthcare providers. For example, questions about the information found online reflect patients’ information needs (Roper & Jorm, 2017). What patients read online can be seen as an indicator of what they consider important (McCombs & Shaw, 1972; Xiao et al., 2014). The healthcare provider can use the discussion about online health information to tailor explanations and recommendations to the preferences of the patient. Previous research shows that if healthcare providers give room to patients to discuss their online findings, patients experience a better patient-healthcare provider relationship, are more satisfied, and recall the information better (Bylund et al., 2010, 2011; Sanders & Linn, 2018).

Limitations

Since higher educated patients are more critical towards their healthcare providers and do not consider them as their first port of call (Smith et al., 2009; Swoboda et al., 2018), we aimed to attain diversity in sex, age, and education in our survey sample. Still, we only included participants who were able to read Dutch. Schinkel et al. (2018), using the linguistic model of patient participation in care, concluded that patients who face a language barrier experience different communication barriers such as their language proficiency and having different cultural values than their healthcare provider. Future research

should seek a variety of language proficiency to expand our findings.

Although previous research indicates that chronically ill patients do not seek more information online than generally healthy people (Russ et al., 2011) another limitation of this study is the rather healthy sample. Moreover, this study relied solely on patients' self-reports of their communication barriers. It would be interesting to further explore patients' communication barriers by including observational data in a chronically ill population. Future research could compare patients' self-reported experiences of communication barriers with a recorded consultation. A comparison study of patients' self-reported experiences and observational data regarding communication barriers can provide insight into whether patients' perceptions of barriers are a reliable proxy for observational data.

Practical implications

The linguistic model of patient participation in care allowed us to determine which communication barriers (i.e., relating to enabling, predisposing factors, and/or healthcare provider behavior) should be tackled, whereas the QUOTE method helped us to prioritize between barriers. Results of our study show that patient interventions should focus on persuading patients to believe in the legitimacy and relevance of discussing online information. Effective strategies include encouraging patients to discuss the information by providing them with a list of possible questions before the consultation or showing role models (Street, 2001). Since the linguistic model of patient participation takes an interactional stance toward patient participation, we were also able to gain a better insight into what should be changed from the healthcare provider's perspective. Interventions should also focus on healthcare providers' skeptical attitudes, and communicative behaviors (e.g., showing interest, and being open toward online health information). As changing the behavior of a healthcare provider is more complex, more intensive interventions are necessary including role-playing, reflection, feedback from supervisors, and watching one's behavior on video (Street, 2001).

Conclusion

Analyzing barriers to discussing online health information contributes to current efforts to conceptualize and understand an issue of growing importance: patient participation in care. By using the linguistic model of patient participation in care and the QUOTE methodology, we were able to pinpoint and prioritize which barriers should be addressed in patient and healthcare provider interventions.

Note

1. Low education level ranges from no education to having a degree for the lowest level of secondary education (pre-vocational), middle education level includes senior general secondary education and pre-university education, high education level is specified by having a higher vocational education or university degree.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

The author(s) reported there is no funding associated with the work featured in this article.

ORCID

Annemiek J. Linn  <http://orcid.org/0000-0003-0912-3712>

References

- Brandes, K., Linn, A. J., Smit, E. G., & Van Weert, J. C. (2015). Patients' reports of barriers to expressing concerns during cancer consultations. *Patient Education and Counseling*, 98(3), 317–322. <https://doi.org/10.1016/j.pec.2014.11.021>
- Broom, A. (2005). Virtually he@lthy: The impact of internet use on disease experience and the doctor-patient relationship. *Qualitative Health Research*, 15(3), 325–345. <https://doi.org/10.1177/1049732304272916>
- Bylund, C. L., D'Agostino, T. A., Ostroff, J., Heerdt, A., Li, Y., & Dickler, M. (2011). Exposure to and intention to discuss cancer-related internet information among patients with breast cancer. *Journal of Oncology Practice*, 8(1), 40–45. <https://doi.org/10.1200/JOP.2011.000271>
- Bylund, C. L., Gueguen, J. A., D'Agostino, T. A., Imes, R. S., & Sonet, E. (2009). Cancer patients' decisions about discussing internet information with their doctors. *Psycho-Oncology: Journal of the Psychological, Social and Behavioral Dimensions of Cancer*, 18(11), 1139–1146. <https://doi.org/10.1002/pon.1511>
- Bylund, C. L., Gueguen, J. A., D'Agostino, T. A., Li, Y., & Sonet, E. (2010). Doctor-patient communication about cancer-related internet information. *Journal of Psychosocial Oncology*, 28(2), 127–142. <https://doi.org/10.1080/07347330903570495>
- Caiata-Zufferey, M., Abraham, A., Sommerhalder, K., & Schulz, P. J. (2010). Online health information seeking in the context of the medical consultation in Switzerland. *Qualitative Health Research*, 20(8), 1050–1061. <https://doi.org/10.1177/1049732310368404>
- CBS. (2019). *More often looking for health information online*. <https://www.cbs.nl/nl-nl/nieuws/2019/04/vaker-online-op-zoek-naar-informatie-over-gezondheid>
- Chen, Y., Li, C., Liang, J., & Tsai, C. (2018). Health information obtained from the internet and changes in medical decision making: Questionnaire development and cross-sectional survey. *Journal of Medical Internet Research*, 20(2), e47. <https://doi.org/10.2196/jmir.9370>
- Chiu, Y. (2011). Probing, impelling, but not offending doctors: The role of the internet as an information source for patients' interactions with doctors. *Qualitative Health Research*, 21(12), 1658–1666. <https://doi.org/10.1177/1049732311417455>
- Chung, J. E. (2013). Patient-provider discussion of online health information: Results from the 2007 health information national trends survey (HINTS). *Journal of Health Communication*, 18(6), 627–648. <https://doi.org/10.1080/10810730.2012.743628>
- D'Agostino, T. A., Ostroff, J. S., Heerdt, A., Dickler, M., Li, Y., & Bylund, C. L. (2012). Toward a greater understanding of breast cancer patients' decisions to discuss cancer-related internet information with their doctors: An exploratory study. *Patient Education and Counseling*, 89(1), 109–115. <https://doi.org/10.1016/j.pec.2012.05.008>
- El Sherif, R., Pluye, P., Thoër, C., & Rodriguez, C. (2018). Reducing negative outcomes of online consumer health information: Qualitative interpretive study with clinicians, librarians, and consumers. *Journal of Medical Internet Research*, 20(5), e169. <https://doi.org/10.2196/jmir.9326>

- George, G. C., Iwuanyanwu, E. C., Buford, A. S., Piha-Paul, S. A., Subbiah, V., Fu, S., Karp, D., Pant, S., Hinojosa, C. O., Hess, K. R., Cleland, C. S., Bernstam, E. V., Meric-Bernstam, F., & Hong, D. S. (2019). Cancer-related internet use and its association with patient decision making and trust in physicians among patients in an early drug development clinic: A questionnaire-based cross-sectional observational study. *Journal of Medical Internet Research*, 21(3), e10348. <https://doi.org/10.2196/10348>
- Hart, A., Henwood, F., & Wyatt, S. (2004). The role of the internet in patient-practitioner relationships: Findings from a qualitative research study. *Journal of Medical Internet Research*, 6(3), e36. <https://doi.org/10.2196/jmir.6.3.e36>
- Hay, M. C., Cadigan, R. J., Khanna, D., Strathmann, C., Lieber, E., Altman, R., McMohan, M., Kokhab, M., & Furst, D. E. (2008). Prepared patients: Internet information seeking by new rheumatology patients. *Arthritis Care & Research*, 59(4), 575–582. <https://doi.org/10.1002/art.23533>
- Henselmans, I., Jacobs, M., Berge Henegouwen, V., Mark, I., De Haes, H. C., Sprangers, M. A., & Smets, E. M. (2012). Postoperative information needs and communication barriers of esophageal cancer patients. *Patient Education and Counseling*, 88(1), 138–146. <https://doi.org/10.1016/j.pec.2011.12.004>
- Huisman, M., Joye, S., & Biltreyst, D. (2020). Searching for health: Doctor google and the shifting dynamics of the middle-aged and older adult patient–physician relationship and interaction. *Journal of Aging and Health*, 32(9), 998–1007. <https://doi.org/10.1177/0898264319873809>
- Imes, R. S., Bylund, C. L., Sabee, C. M., Routsong, T. R., & Sanford, A. A. (2008). Patients' reasons for refraining from discussing internet health information with their healthcare providers. *Health Communication*, 23(6), 538–547. <https://doi.org/10.1080/10410230802460580>
- Kivits, J. (2006). Informed patients and the internet: A mediated context for consultations with health professionals. *Journal of Health Psychology*, 11(2), 269–282. <https://doi.org/10.1177/1359105306061186>
- Luo, A., Qin, L., Yuan, Y., Yang, Z., Liu, F., Huang, P., & Xie, W. (2022). The effect of online health information seeking on physician-patient relationships: Systematic review. *Journal of Medical Internet Research*, 24(2), e23354. <https://doi.org/10.2196/23354>
- Maloney, E. K., D'Agostino, T. A., Heerd, A., Dickler, M., Li, Y., Ostroff, J. S., & Bylund, C. L. (2015). Sources and types of online information that breast cancer patients read and discuss with their doctors. *Palliative & Supportive Care*, 13(2), 107–114. <https://doi.org/10.1017/S1478951513000862>
- Masters, K. (2016). The e-patient and medical students. *Medical Teacher*, 38(3), 314–316. <https://doi.org/10.3109/0142159X.2015.1112896>
- McCombs, M. E., & Shaw, D. L. (1972). The agenda-setting function of mass media. *Public Opinion Quarterly*, 36(2), 176–187.
- Nguyen, M. H., Smets, E. M., Bol, N., Loos, E. F., Van Laarhoven, H. W., Geijsen, D., Van Berge Henegouwen, M. I., Tytgat, K. M. A. J., & Van Weert, J. C. (2019). Tailored web-based information for younger and older patients with cancer: Randomized controlled trial of a preparatory educational intervention on patient outcomes. *Journal of Medical Internet Research*, 21(10), e14407. <https://doi.org/10.2196/14407>
- Roper, L., & Jorm, C. (2017). Please leave your phone outside: Policymakers and medical app providers are encouraging patient participation, but doctors in the consult room are not. *BMJ Innovative*, 3(2), 65–70. <https://doi.org/10.1136/bmjinnov-2016-000134>
- Russ, H., Giveon, S. M., Granek Catarivas, M., & Yaphe, J. (2011). The effect of the internet on the patient-doctor relationship from the patient's perspective: A survey from primary care. *IMAJ-Israel Medical Association Journal*, 13(4), 220.
- Sanders, R., & Linn, A. J. (2018). A mixed method study investigating the impact of talking about patients' internet use on patient-reported outcomes. *Journal of Health Communication*, 23(9), 815–823. <https://doi.org/10.1080/10810730.2018.1514443>
- Schinkel, S., Schouten, B. C., Kerplick, F., Van Den Putte, B., & Van Weert, J. C. (2018). Perceptions of barriers to patient participation: Are they due to language, culture, or discrimination? *Health Communication*, 34(12), 1469–1481. <https://doi.org/10.1080/10410236.2018.1500431>
- Schrank, B., Sibitz, I., Unger, A., & Amering, M. (2010). How patients with schizophrenia use the internet: Qualitative study. *Journal of Medical Internet Research*, 12(5), e70. <https://doi.org/10.2196/jmir.1550>
- Silver, M. P. (2015). Patient perspectives on online health information and communication with doctors: A qualitative study of patients 50 years old and over. *Journal of Medical Internet Research*, 17(1), e19. <https://doi.org/10.2196/jmir.3588>
- Smith, S. K., Dixon, A., Trevena, L., Nutbeam, D., & McCaffery, K. J. (2009). Exploring patient involvement in healthcare decision making across different education and functional health literacy groups. *Social Science & Medicine*, 69(12), 1805–1812. <https://doi.org/10.1016/j.socscimed.2009.09.056>
- Sommerhalder, K., Abraham, A., Zufferey, M. C., Barth, J., & Abel, T. (2009). Internet information and medical consultations: Experiences from patients' and physicians' perspectives. *Patient Education and Counseling*, 77(2), 266–271. <https://doi.org/10.1016/j.pec.2009.03.028>
- Stevenson, F. A., Kerr, C., Murray, E., & Nazareth, I. (2007). Information from the internet and the doctor-patient relationship: The patient perspective—a qualitative study. *BMC Family Practice*, 8(1), 47. <https://doi.org/10.1186/1471-2296-8-47>
- Street, R., Jr. (2001). Active patients as powerful communicators. In P. Robinson & W. Giles (Eds.), *The new handbook of language and social psychology* (pp. 541–560). Wiley.
- Swoboda, C. M., Van Hulle, J. M., McAlearney, A. S., & Huerta, T. R. (2018). Odds of talking to healthcare providers as the initial source of healthcare information: Updated cross-sectional results from the health information national trends survey (HINTS). *BMC Family Practice*, 19(1), 146. <https://doi.org/10.1186/s12875-018-0805-7>
- Tan, S. S., & Goonawardene, N. (2017). Internet health information seeking and the patient-physician relationship: A systematic review. *Journal of Medical Internet Research*, 19(1), e9. <https://doi.org/10.2196/jmir.5729>
- van Eenbergen, M. C., Vromans, R. D., Boll, D., Kil, P. J., Vos, C. M., Kraemer, E. J., Mols, F., & van de Poll-franse, L. V. (2020). Changes in internet use and wishes of cancer survivors: A comparison between 2005 and 2017. *Cancer*, 126(2), 408–415.
- Van Weert, J. M. C., Jansen, J., De Bruijn, G. J., Noordman, J., Dulmen, A. M., & Bensing, J. M. (2009). Quotechemo: A patient-centred instrument to measure quality of communication preceding chemotherapy treatment through the patient's eyes. *European Journal of Cancer*, 45(17), 2967–2976. <https://doi.org/10.1016/j.ejca.2009.06.001>
- Wald, H. S., Dube, C. E., & Anthony, D. C. (2007). Untangling the Web—The impact of internet use on healthcare and the physician–patient relationship. *Patient Education and Counseling*, 68(3), 218–224. <https://doi.org/10.1016/j.pec.2007.05.016>
- Wang, J., Ashvetiya, T., Quaye, E., Parakh, K., & Martin, S. S. (2018). Online health searches and their perceived effects on patients and patient-clinician relationships: A systematic review. *The American Journal of Medicine*, 131(10), 1250.e1–1250.e10. <https://doi.org/10.1016/j.amjmed.2018.04.019>
- Xiao, N., Sharman, R., Rao, H. R., & Upadhyaya, S. (2014). Factors influencing online health information search: An empirical analysis of a national cancer-related survey. *Decision Support Systems*, 57, 417–427.