Chapter 2
Web–Based Information for Patients and Providers

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ABSTRACT

The exponential development of Information Technologies revolutionized healthcare. A significant aspect of this revolution is the access to health information in the Internet. The Internet World Stats estimates that 56.8% of the world population used the Internet in March 2019, an increase of 1,066% from 2000. According to The Pew Research Center survey of 2012 81% of Americans used the internet and 72% of them searched for health information. Even though there is a lack in more recent data on the percentage of online health information seekers, it is clear that this trend is on the rise. This chapter focuses on the characteristics of the search for online health information by patients and providers, investigates features related to the quality of health web sites, and discusses the impact of these searches on healthcare.

OVERVIEW

The following chapter provides a review of the current literature on online healthcare information and its nexus to empowerment. More than ever, patients have new mechanisms to become informed about their conditions and treatment options. Providers bear a responsibility to understand and support emerging needs that may be driven by both underlying human psychology and by limited access to healthcare. The reader is presented herein to an interesting compilation of how the world wide web, social media, health informatics, AI, automated search tools and other technologies both promote and inhibit patient empowerment from a conceptual standpoint. The chapter concludes with a call to action echoed by many physicians: How can we ensure patients have available, reliable, high-quality health information that contributes to their empowerment?
Characteristics of Patients’ Online Search of Health Information

The number of Internet users worldwide has been estimated as 4.4 billion in March 2019, representing 56.8% of the world population—an increase of 1,114% since year 2000 (Miniwatts Marketing Group, 2019). The main factors considered as contributors to this increase were the reduced computers prices, the increased usage of smartphones, and the broad access to the Internet in public places.

Alongside the increase in Internet usage, the percentage of population seeking online for health information also has enlarged. The US nationwide 2012 Pew Research survey reported that 72% of Internet users in America searched for health information (Fox & Duggan, 2013). This high percentage emphasizes the importance of characterizing the online search of health information and understanding its effects on healthcare.

Regarding the topics of most interest among online health information seekers, the 2012 Pew Survey reported that 52% of them were looking for information about specific diseases or medical problems, 43% were looking for information related to a specific treatment or medical procedure, 27% searched for weight loss/control and 25% searched for information on medical insurance (Fox & Duggan, 2013).

Several other studies investigated the topics of interest on online searches for health information in specific population groups. Ayakhot and Carolan-Olah (2016) reviewed the literature for quantitative studies of pregnant women searching for pregnancy related online information that were published from 2004 to 2014. In the 7 studies included in their investigation, the most searched topics were: stages of childbirth and fetal development, pregnancy complications, antenatal care and nutrition during pregnancy. Those most likely to search for information were women in their first pregnancy and/or in early pregnancy stages. Regarding demographics, women with higher education, those employed, and those within the age group of 25-34 were most likely to search for information. Frequency of searches varied from once a month to 10 or more a month. This variation may be due to the time gap since the first studies and the last studies investigated, implying in the changes occurred in the frequency of Internet usage.

In another systematic review of health-related Internet use by children and adolescents, researchers analyzed 19 studies selected from major databases across different countries. The results indicate that time spent online on health issues changes with age. Overall, 82.8% of youth in the age range of 11 to 18 years reported 1 to 4 hours/day online (Park & Kwon, 2018). Also, a high frequency of health-related Internet use was reported in all studies. Sixty-four percent of teens aged 10 to 26 in the UK stated they use the Internet every day, and 26% used it at least once or twice a week. In the US, 97% of the participants reported using the Internet at least once a month, with 87% of them reporting usage once a week. Results of most of the studies show that a high percentage of youth use the Internet for health-related purposes and the use is more frequent in teens over 15. The main topics of searches were everyday health-related issues (such as sport injuries, flu, asthma) chronic diseases, physical well-being, sexual health, mental health, social problems, and culturally and religiously sensitive topics. Some evidence suggests that teens avoid searching online for issues that make them feel uneasy. For emotional difficulties they generally opt for help and related information from peers online. Youth with chronic diseases search online information for symptoms and treatments related to their condition. Supportive communities for a specific health condition are well accepted, as well as health-related online activities, including messaging and connecting with others, networking, and receiving information. Notably over 60% preferred an online support group to in-person meetings. A Swedish study of hospitalized diabetic children also indicated