Online and Virtual Health Information Use, Health Empowerment and Health Risks

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ABSTRACT

Access to virtual health information is associated with improved knowledge about health issues. In this commentary, we present the challenges associated with the use of the virtual sources of information including eHealth and mHealth for health purposes. We analyze the difficulties caused by a set of individual-level constraints - lack of technology skills, chronic condition, and a distinction between lifestyle and healthcare goals that prevent the effective use of eHealth and mHealth sources. We propose that institutional level efforts encouraging the use of virtual health sources toward increased health empowerment and self-management practices should account for these individual-level constraints. By doing so, institutional health-care providers will be more likely to increase the quality in the delivery of health services and health programs, improve the likelihood of effective self-management practices, and reduce the risk of inducing secondary digital divide effects.

Key words: Constraints, digital divide, eHealth, mHealth, self-management practices

INTRODUCTION

Health empowerment became a major theme in health-oriented societies. 72% of the United States adults have sought health information online[37] and at least 1% use social media like Facebook clearly, online information seeking is prevalent but when they have a serious health issue,[37] networking sites,[39] or simply surfing for health information improve one's chances for high health empowerment. The reports from a nationwide survey of 3014 adults living in the United States[36] present some significant trends in health information-seeking behavior. 35% say they have gone online specifically to try to figure out what medical condition they or someone else might have. "Dr. Google" has indeed become a favorite choice when seeking information from a virtual health center. One of three Americans who use the internet for a diagnosis, about a third said that they did not go to a doctor to get a professional medical opinion, while 41% said that a doctor later confirmed their diagnosis.[14] 18% said that a doctor did not agree with their diagnosis. Improvement

in health quality among socially disadvantaged groups has also been supported by recent evidence.[25-27]

E-Health and m-Health are relatively new phenomena that followed the more intense uses of the internet and the social media. Expectations for higher health levels and better quality of life have increased the interest for health changes in dietary and well-being routines as well as in higher awareness of existing health alternatives. Not surprisingly, health institutions and health policy-makers prompt individuals to claim more responsibility regarding health needs, health diagnosis, and health treatment.[18] Yet, knowledge alone cannot guarantee the adoption of healthy behaviors.[9,22] While the internet plays a central role in health empowerment - since accessing information increases health literacy necessary to health behavior and change,[17] neither access nor use of the internet and other related sources of health such as mobile health applications are similar for all individuals and all social groups. In fact, with the rising number of online health information seekers in western societies, it has been obvious that differences in access to

online health information will affect individuals with lower technology skills.

Lack of skills, leading to lower use of online health information and services, may result to lower health practices. [31] Disadvantaged groups in terms of technology skills and/ or access to online health information and services may ignore health issues and have little motivation to deal with prevention of illness. Even among those who are aware of health information, investment in improved health is minimal, whether or not they access online health services, while some minority groups express mistrust.[15,34] Not surprisingly the effectiveness of the virtual sources of health information and services has been doubted.[1,3,9,19,31,32,33]

The purpose of this review is to discuss the association between the microlevel use of the internet for health purposes (accessing health information, health-related websites, participation in health forums, bulletin boards and health-related social networking sites, and mobile health applications) and the macrolevel institutional level challenges in the delivery of health services and health programs.[23,24]

Background

Individuals wishing to maximize their involvement in health decisions and take concrete steps toward better health routines seek out the information they need. Searching for health information online is an important step toward change. Accessing health information and participating in health-related social groups and effectiveness in the use of health services accents the importance of several factors.

First, online users of health information need to possess/ acquire the necessary technical skills and develop the "right" frame of mind that manifests in health attitudes. Health information on the internet makes individuals more confident and increases the level of trust put on human sources such as physicians, nurses, and medical staff. Internet users seem to be more satisfied with contacts with their physicians.[28] Some health consumers though, arriving to the health provider with information they found on the web, with a preconceived idea about their diagnosis, want to actively participate in therapeutic decisions relying on misleading or misinterpreted health information.[10] This "information control" process challenges the institutional health-care provider to adjust to a more equal role with patients who may challenge the authority of the health provider. Expressing lack of trust and dissatisfaction are common outcomes of this "health information control" process.[12] Conversely, motivation for the search of medical and health information might be related at the initial extent of the individual's satisfaction and trust with the health provider.[7] This is why[7] distinguishes between the professional approach empowerment occurs when individuals internalize aspects of health and disease; the consumer approach empowerment increases the odds for optimal decisions and the community approach empowerment is possible when community members exchange old and new health information and personal experiences.[8]

Second, specific health conditions such as a chronic illness motivate individuals to introduce online searching to retrieve information concerning the most suitable time and place for the individual. Access to relevant information increases understanding, making it easier to acquire a full perspective about one's medical condition, treatment, or medication, thereby increasing chances of recovery.[2] Online information also offers the necessary resources for increasing willingness to form new healthy habits, while knowing about health-related products and services may alleviate unpleasant symptoms due to a health problem.[4-6] Reports indicate that 56% of online users look for information about new treatments and medication[23] and that the majority of online users suffer from chronic illness. Online health activity is also associated with lack of confidence in health-care professionals.[42] Studies have found that consumer health information based on the use of internet serves as a substitute for information from health practitioners when the "costs" in distance and time associated with a visit to a physician are high.[26,43]

Third, online users of health information need to assess the expected and actual level of health empowerment they seek in order to evaluate how t h e accessed health knowledge is both relevant and effective. In order to do so they need to distinguish between life style and health-care behaviors. Furthermore, setting health goals include concrete plans and strategies, while health empowerment involves understanding that some means are better facilitators toward a desired health target.[30,35,39, 41,44,4,5,46,47]

Finally, situational effects in the individual's environment may impede the application of the desired health regimes. Such conditions are often the outcome of contact with a health agent or health context. Indeed,[29,31] points to how the push/pull framework of individuals may either increase or decrease their reliance on online sources of health information delivered virtually in the forms of e-Health and m-Health.[29,40]

While at the microlevel the significance of e-Health and m-Health increases over time,[29,31] the macrolevel policies of the health systems and institutions need to encourage the development of services and programs that enable individuals to take more responsibility for their own health needs, diagnosis, and treatment.[18] Health institutions and commercial groups need to implement principles of economic funding that successfully combines between effective and efficient administration of virtual health devices.[1,33] This combination is especially for individuals and social groups that are in a technological disadvantage and need of guidance to increase their health literacy and empowerment.[16]

Being aware of the potential of "secondary level" digital divide effects[25,34,38] and the ways to avoid, it will increase the potential of health literacy, health empowerment, and successful self-management practices among those who need it most - the elderly, those located in remote geographic areas, and/or facing chronic illness and disabilities.[1,9,19]

CONCLUSIONS

Advancing and promoting the use of virtual devices can instigate higher literacy and improve health practices. Focusing on the advantages of eHealth and mHealth is a necessary step to increase the likelihood of self-management practices.[11,20]

We intended to discuss the association between the microlevel use of the internet for health purposes (accessing health information, health-related websites, participation in health forums, bulletin boards, and health-related social networking sites) and the macrolevel institutional level challenges in the delivery of health services and health programs. We suggested that individual efforts to encourage the use of virtual health information sources aimed to increase health empowerment necessitate a thorough understanding of the factors associated with individuals' potential of taking responsibility, asking questions and acting on them,[13] especially among individuals facing specific chronic situations and hardships in health and/or lower technology skills who face the risk of secondary digital divide effects in health.

Among individuals diagnosed facing some sort of challenge using technology such as the elderly and/or a chronic disease using eHealth and mHealth sources of information as a source of self-management practices may be misleading or even risky. This is why health institutions need to address notions of effectiveness and efficiency to increase the successful implementation of programs regarding illness prevention, early diagnosis, and regular attendance to a healthy lifestyle.[1,33] Lack of consideration and attention to the individuals level factors addressed above will increase the risk to generate and deepen differences in access and the use of eHealth and mHealth services.[22,31]

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