

The Use of Internet for Health Education

Phoenix Mo*

School of Public Health and Primary Care, The Chinese University of Hong Kong, China

The internet has revolutionized the way that many people access, share and communicate information throughout the world. As health educators and professionals have been seeking ways to facilitate, develop, and to deliver effective health education to individuals and the communities, the Internet is playing an increasingly important role in health education research and practice. This current article examines the use of Internet for health education, the obstacles of use, and how to overcome these obstacles.

Growing use of Internet for Health Education

The use of Internet for health education has been increasing rapidly. It is estimated that as of August 2012, 85% of the adult U.S. population used the Internet. Approximately 80% Internet users have used the Internet to search for health information [1]. It is estimated that about 4.5% of all Internet search are health-related [2]. The Internet is also changing the way people obtain and use health information. The Pew Internet and American Life survey revealed that 34% of internet users have read someone else's commentary or experience about health or medical issues online, 24% of internet users have consulted online reviews of particular drugs or medical treatment, 18% of internet users have gone online to find others who might have health concerns similar to theirs. This is particularly prevalence among people living with chronic and rare conditions [1]. Although most of the health-related Internet use is associated to a current disease diagnosis, there has also been an increase in search for information about diet, fitness, and exercise on the Internet, suggesting that online internet users are increasingly interested in health information that could be unrelated to particular symptoms or disease condition.

Advantages of the Internet as a means of Health Education

The literature has identified various advantages associated with delivering health education through the internet [3]. First, the Internet offers a low-cost mean of information and support to a large number of individual and therefore may have the potential to reduce the financial cost of health education. It also allows tailored health information to be delivered to each individual, according to their health status and concern. In addition, the Internet has potential for disseminating health information to certain population groups which previously may have been unreachable or difficult to reach by convention means. For example, some studies have shown that men were less likely to seek help from health care professionals [4,5]. To them, Internet may be a valuable source where they could seek help. The anonymity of the Internet also allows individuals to obtain sensitive or embarrassing health information. This is supported by research showing that having a condition which is considered stigmatizing (e.g. HIV) may prompt individuals to seek help from the internet [6]. Internet also has the potential to remove geographical barriers, or physical limitations which prevent individuals from seeking face-to-face support.

How is Health Promoted through the Internet, and what is the Evidence?

The plethora of communication channels in the internet, such as

the world wide web, email, newsgroups, online forums, chat rooms, instant messaging, or online social media, etc, have important implications on health education can be delivered. There are several ways in which the Internet has been used for health education. The first involves professional development. Several studies have examined the use of the Internet for distance learning and continuing education on health-related courses [7,8]. The second and the most important one, is the use of the Internet as an intervention channel. This includes the distribution of health information, or intervention systems aimed at helping individuals make health behaviour change. Indeed, research has documented the effectiveness of a wealth of health education or intervention that was delivered through various channels in the internet. For example, professional online intervention systems have been developed for various health conditions. These online specifically designed online intervention systems combined health information provision with various components including decisional support, question and answer, and communication with experts or other system users. Numerous positive outcomes associated with the use of these online intervention systems have been reported, including more use of active coping strategies, improvement in health behaviours, and better mental health and quality of life [9-12]. A recent meta analysis of 85 internet health intervention studies revealed that on average, internet interventions had a statistically small but significant effect on health behaviour, with more extensive use of theory, incorporation of more behaviour change techniques associated with increase in effect size [13].

The Internet has also provided an excellent medium for social interaction among patients who shared similar background and health concerns through online support groups. Most communications within online support groups work asynchronously on a 'bulletin board' format, with messages posted by members stored online for some time for others to read at different at their own convenience. Studies that explored the provision of social support within these online groups and found informational and emotional support were most frequently exchanged in the group [14,15]. The use of online support groups is found to be associated with positive outcomes, including better mental health, better quality of life, and higher level of optimism, and more use of active coping strategies [16,17] and the benefits do not seem to differ between lurkers who only read the messages posted to the group, and posters who both read and post messages to the group [18,19].

More recently, health interventions delivered through more innovative platforms, such as smartphone software applications (apps)

*Corresponding author: Phoenix Mo, School of Public Health and Primary Care, The Chinese University of Hong Kong, China, E-mail: Phoenix.mo@cuhk.edu.hk

Received October 29, 2012; Accepted October 31, 2012; Published November 05, 2012

Citation: Mo P (2012) The Use of Internet for Health Education. J Biosafety Health Educ 1:e102. doi:10.4172/2332-0893.1000e102

Copyright: © 2012 Mo P. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

[20] and online social media (e.g. Facebook) [21] have also been reported. Such intervention channels provide a variety of potential useful tools including symptom assessment and monitoring, education, instant support, and tracking of treatment progress. However, there is a lack of published research and more studies are needed to evaluate the efficacy of health education delivered using these technologies.

Issues with Delivering Health Education in the Internet

Despite the promise and potential of the Internet, many significant obstacles remain to be overcome, these include the vast digital divide that exists between those with access to Internet and those who do not have such access. As the Internet population has grown, the digital divide has been narrowing. However, individuals who are less educated, economically disadvantaged, older, and socially marginalised remain least likely to access health information on the Internet and thus were isolated from the “digital culture” [22]. Recent data from the Pew Internet & American Life Project shows that while more than 90% of those aged 18 to 49 used the internet, the figure dropped to 85% among those aged 50-64, and significantly to 58% among those 65+ [1]. These figures suggest that those who have the greatest need in health information may not be able to benefit from the emerging technology. Another issue concerns the accuracy of health information on the internet. As anyone can post information on the internet, there is little control over the accuracy of information and feedback posted on the website. The anonymous nature of the Internet further intensifies the likelihood of false identities that someone may claim themselves expert in the subject matter. There have been cautions that some of the health information available on the Internet may contain inaccurate or non evidence-based information [23,24]. Furthermore, individuals with lower incomes and less education are more likely to assign higher credibility to unfounded Internet information, thus are more vulnerable to misinformation from the Internet [25,26].

Implications for Practice

The above issues have important implications on how health educators can promote the use of internet for health purposes among the older groups, and how can one minimize the chance of retrieving inaccurate health information from the internet. To date, most of the studies in this field tend to focus on the efficacy of health education to be delivered through the Internet; relatively less has been discussed on how we can promote the optimal use of the internet for health education so that the general public can benefit most from the internet.

Intervention should be provided to educate patients the skills for health-related Internet use. Health care professional should also increase the motivation and self efficacy of patients by minimising the perceived barriers of Internet use, and helping them develop strategies to overcome these barriers. Specifically patients should be educated on the role of Internet in their disease management, the technical skills of how to obtain useful information and support from the internet, and how to transfer the information and support obtained from the internet into management of disease.

There is a need for health care professionals or online support group administrators to regularly evaluate and monitor the content of message that is shared between members in the group so to minimise the chance of harm caused by misinformation on the internet. Intervention is needed to provide patients information where they could obtain useful health information, and to educate them to evaluate the credibility of online information more critically. The feasibility of intervention to increase the skills in using and evaluating HIV/AIDS information on

Internet has been demonstrated in previous studies [27]. This can serve as a useful guide for health care professionals to improve the skills of patients so they could obtain useful information more effectively.

Conclusion

The emerging of Internet technology offers numerous opportunities for health education to be delivered in a cost-effective way. The current literature suggests that use of Internet for health education may potentially be beneficial. However, issues such as digital divide and the quality of information posted on the Internet may serve as barriers to which individuals can benefit from health-related internet use. There is a need for healthcare professionals to integrate the Internet as an adjunct support of their healthcare, to constantly evaluate the health information that is posted on the Internet, and to educate the general public how to obtain health information from a credible source.

References

1. Demographics of internet users (2012) Pew Internet & American Life Project.
2. Eysenbach G, Kohler C (2004) Health-related searches on the Internet. *JAMA* 291: 23.
3. Griffiths F, Lindenmeyer A, Powell J, Lowe P, Thorogood M (2006) Why Are Health Care Interventions Delivered Over the Internet? A Systematic Review of the Published Literature. *J Med Internet Res* 8: e10.
4. Lane JM, Addis ME (2005) Male Gender Role Conflict and Patterns of Help Seeking in Costa Rica and the United States. *Psychology of Men & Masculinity* 6: 155-168.
5. Oliver MI, Pearson N, Coe N, Gunnell D (2005) Help-seeking behaviour in men and women with common mental health problems: cross-sectional study. *Br J Psychiatry* 186: 297-301.
6. Davison KP, Pennebaker JW, Dickerson SS (2000) Who talks? The social psychology of illness support groups. *Am Psychol* 55: 205-217.
7. Ruiz JG, Mintzer MJ, Leipzig RM (2006) The Impact of E-Learning in Medical Education. *Acad Med* 81: 207-212.
8. Wutoh R, Boren SA, Balas EA (2004) eLearning: A review of Internet-based continuing medical education. *J Contin Educ Health Prof* 24: 20-30.
9. Lieberman MA, Golant M, Giese-Davis J, Winzenberg A, Benjamin H, et al. (2003) Electronic support groups for breast carcinoma: a clinical trial of effectiveness. *Cancer* 97: 920-925.
10. Lindström J, Ilanne-Parikka P, Peltonen M, Aunola S, Eriksson JG, et al. (2006) Sustained reduction in the incidence of type 2 diabetes by lifestyle intervention: follow-up of the Finnish Diabetes Prevention Study. *The Lancet* 368: 1673-1679.
11. Napolitano M, Fotheringham M, Tate D, Sciamanna C, Leslie, et al. (2003) Evaluation of an internet-based physical activity intervention: A preliminary investigation. *Ann Behav Med* 25: 92-99.
12. Owen JE, Klapow JC, Roth DL, Shuster JL, Bellis J, et al. (2005) Randomized pilot of a self-guided Internet coping group for women with early-stage breast cancer. *Ann Behav Med* 30: 54-64.
13. Webb TL, Joseph J, Yardley L, Michie S (2010) Using the Internet to Promote Health Behavior Change: A Systematic Review and Meta-analysis of the Impact of Theoretical Basis, Use of Behavior Change Techniques, and Mode of Delivery on Efficacy. *J Med Internet Res* 12: e4.
14. Love B, Crook B, Thompson CM, Zaitchik S, Knapp J, et al. (2012) Exploring psychosocial support online: a content analysis of messages in an adolescent and young adult cancer community. *Cyberpsychol Behav Soc Netw* 15: 555-559.
15. Mo PKH, Coulson NS (2008) Exploring the communication of social support within virtual communities: a content analysis of messages posted to an online HIV/AIDS support group. *Cyberpsychol Behav* 11: 371-374.
16. Houston TK, Copper LA, Ford DE (2002) Internet support groups for depression: A 1-year prospective cohort study. *Am J Psychiatry* 159: 2062-2068.
17. Mo PKH, Coulson NS (2012) Developing a model for online support group use,

- empowering processes and psychosocial outcomes for individuals living with HIV/AIDS. *Psychol Health* 27: 445-459.
18. Mo PKH, Coulson NS (2010) Empowering processes in online support groups among people living with HIV/AIDS: A comparative analysis of 'lurkers' and 'posters'. *Computers in Human Behavior* 26: 1183-1193.
19. van Uden-Kraan CF, Drossaert CHC, Taal E, Seydel ER, van de LMA (2008) Self-reported differences in empowerment between lurkers and posters in online patient support groups. *J Med Internet Res* 10: e18.
20. Luxton DD, McCann RA, Bush NE, Mishkind MC, Reger GM (2011) mHealth for Mental Health: Integrating Smartphone Technology in Behavioral Healthcare. *Professional Psychology: Research and Practice* 42: 505-512.
21. Cavallo DN, Tate DF, Ries AV, Brown JD, DeVellis RF, et al. (2012) A Social Media-Based Physical Activity Intervention: A Randomized Controlled Trial. *Am J Prev Med* 43: 527-532.
22. Brodie M, Flournoy RE, Altman DE, Blendon RJ, Benson JM, et al. (2000) Health information, the Internet, and the digital divide. *Health Aff* 19: 255-265.
23. Berland GK, Elliott MN, Morales LS, Algazy JI, Kravitz RL, et al. (2001) Health information on the Internet: Accessibility, quality, and readability in English and Spanish. *JAMA* 285: 2612-2621 .
24. Eysenbach G, Powell J, Kuss O, Sa E-R (2002) Empirical Studies Assessing the Quality of Health Information for Consumers on the World Wide Web: A Systematic Review. *JAMA* 287: 2691-2700.
25. Benotsch EG, Kalichman SC, Weinhardt LS (2004) HIV-AIDS patients' evaluation of health information on the internet: the digital divide and vulnerability to fraudulent claims. *J Consult Clin Psychol* 72: 1004-1011.
26. Kalichman SC, Cherry C, Cain D, Weinhardt LS, Benotsch E, et al. (2006) Health information on the Internet and people living with HIV/AIDS: Information evaluation and coping styles. *Health Psychology* 25: 205-210.
27. Kalichman SC, Weinhardt L, Benotsch E, DiFonzo K, Luke W, et al. (2002) Internet access and Internet use for health information among people living with HIV-AIDS. *Patient Education and Counseling* 46: 109-116.