Online Resources In Mental Health Services

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Abstract—**Due to expansion of information available on health services and health information regarding mental health, people access it as a readily available information source and for reference sources. However mental health information web sites have a wide range of quality and focus. The information quality and content has been a matter of discussion amongst users and service providers. Interactive methods like facebook are not ideal due to issues around confidentiality and personal involvement. There are many factors affecting the quality of Internet website based resources. These include factors like ease of navigation, user interface and access to high quality unbiased literature, diagnostic tools and ability for interactive opportunities. There are different methods and ways to find those resources and quantify them according to specified parameters. We evaluated current knowledge on assessing such web resources and ways of assessing their quality.**

I. INTRODUCTION

Increased use of the Internet and web-based resources over the past years has created the demand for online access to health resources. Usher & Skinner (2010) identified several important factors in developing electronic health resources. Classes of health websites reviewed included e-Knowledge, which serve to provide information to the general public regarding diseases, treatment, and prevention, and e-Professional, which are designed to provide information to health professionals regarding medical advances, conditions, treatments, drugs, and technologies. Factors measured included information quality, usability issues, site facilities, and networkability. Usher & Skinner identified literacy and content level as a factor that needs improvement. A large percentage of the population is either illiterate or reads below a sixth-grade reading level. It was therefore suggested that websites be designed at a reading level below sixth-eighth grade to increase accessibility. It was concluded that there does not need to be a single 'best-fit' model for all e-health websites. Web designers must design a set of evaluation criteria that the general public can both access and understand. A framework must be developed which balances the information presented, patient understanding, and sufficient transparency of the framework.

This is particularly important for psychiatric resources, due to the stigma surrounding mental health and lack of public knowledge surrounding mental health issues. In a review of the quality of mental disorder information websites, Reavley & Jorm (2010) found the overall quality to be low. The quality of information was found to be particularly inadequate for anxiety disorders and mental disorders other than mood disorders. Bipolar Disorder was found to have the highest quality information available. The evidence did suggest that the quality of information regarding mood disorders has been improving over time. The

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highest quality information was found to come from government, professional, and charitable websites. Editorial boards, having information on a variety of mental health issues, having internal search engines, mentioning scientific evidence or citation of references and absence of financial interest, were also all found to be factors correlated with a higher quality of available information. The authors concluded that it is unclear how to best improve the quality of available information.

Methods have been proposed for indicating which sites contain accurate information, such as approval seals, web browser encryption icons, and automated quality assessments. Reavely & Jorm (2010) further suggested that factors such as design, readability, perceived expertise, and absence of bias contribute to the likelihood that a user will make use of the available information. Presented evidence suggests that Internet users are twice as likely to seek help from a mental health professional, and three times as likely to seek help from a general practitioner or any service (Reavley & Jorm, 2010).

Oudshoorn & Somers (2006) described the barriers faced by three organizations in the development of their health websites. The first, the Depression Foundation, developed a Digital Information & Advice Line. The organization used a 'design from within' strategy, which involved developing the website from the perspective of the target group. For example, because people with depression experience concentration issues, all information was offered on the front page or within a few clicks. The same was true for the content of the site. The website included general information about the organization, information regarding depression and therapies, frequently asked questions, a personal advice forum, a test for self-diagnosis, and a forum for relatives of individuals with depression. Several issues, however, were identified with the site, including poor navigation structure, the references are difficult to find, rare use of hyperlinks, the forum has a poor format, and the text consists of overly long and complex sentences.

The second organization Oudshoorn & Somers (2006) evaluated, the Foundation for Young People and Cancer, also used internal expertise in designing their website, in addition to the expertise of other organizations. The project leader also gathered information from the participants, patients, and user feedback and consumer testing. The user interface was designed to come across as a safe place by implementing a user-friendly navigation structure. The design was also simpler than that used by the Depression Foundation, with shorter texts per page. A few drawbacks of the site include inconsistencies in navigation structure, page design, and references to other pages. The content was based on mutual support, and also allowed for patients to take action in their own care.

Lastly, the RSI Patient Organization relied primarily on in-house knowledge, as most volunteers had expertise in Internet technology and were current or ex-RSI patients. It was designed to be user-friendly with simple navigation and no unnecessary features. The authors concluded that common barriers in website design included lack of funds and digital expertise (Oudshoorn & Somers, 2006).

Further, Lee Dearness & Tomlin (2001) discussed the development of the National electronic Library for Health (NeLH) and its branch libraries, including the National electronic Library for Mental Health (NeLMH). The NeLMH was designed to provide easily accessible, high quality mental health literature online. The website design includes a main section with references services and other links, a Know-How section to promote the sharing of good practice, a Knowledge section containing the core library, and a Knowledge Management section to aid researchers. Literature is presented in a hierarchical manner, such that evidence-based summaries appear initially in the search, while non-peer reviewed material appears last. The site targets patients and carers, mental health professionals, primary care professionals, and health policy personnel. The resources for all user groups will be the same, however, the interface will be targeted to that particular user group. The patient interface includes a 24-hour nurse-led telephone enquiry service, online diagnostic questionnaires, a guide answering general questions, lifestyle and coping information, treatment information, background reading, patient information, and links to other resources. Several quality assurance methods have been developed including response time, front-end design, evaluation of context-quality, filling in existing gaps in the available evidence, evaluation by outcome, and evaluation by deliverables. Suggested future directions included making the abstracts available through Internet devices such as phones and digital TVs.

In developing health education and health service delivery websites, it is also important to consider what the users of the site value most highly. Nicholas (2010) reviewed the efficacy of a mental health service site (Reach Out!) designed to reduce stigma, increase mental health literacy, strengthen meaningful participation and relationships, and improve resilience and help seeking. Components of the site include database of evidence-based fact sheet developed by mental health professionals and co-written by young people; an online community forum; gaming based on the principles of CBT; social networking elements and digital storytelling; and portable digital media such as downloadable podcasts. Pilot data indicated that 80% of users reported having learned about mental health and 77% reported learning where to go to seek help. Further, 88% of repeat visitors reported seeking help, and 38% specifically sought out a professional. It was concluded that Reach Out! is both a helpful and trusted resource.

Young, Richards, & Gunning (2012) reviewed the efficacy of two online mental health resources for adolescents. The two websites evaluated were the mental health promotion websites 'stress and anxiety in teenagers' and 'depression in teenagers'. Both sites followed the same format, with interactive programs containing resources with information on symptoms and advice. Outcome measures included patterns of usage and evaluation of user experience. The results indicated that users agreed that the website was easy to navigate, the information was easy to understand and trustworthy, and approximately half found the sites to be informative. Both websites were rated as useful overall, with the depression site being consistently rated more favorably. Feedback indicated that users of the depression website wanted more personal anecdotes available, and users of both sites enjoyed using the games, although the format did not always work.

Havas et al. (2010) examined the factors considered important by adolescents for mental health websites. Outcome measures included how adolescents use the Internet when searching for mental health information, what needs adolescents have for online support, and adolescents' opinions on the layout of mental health websites. The results indicated that participants usually found sites through search engines or advertisements. Information that participants would like see on a mental health website included information, self-tests, and chats. Some participants also wanted email communication. Other recommended factors included a search engine within the site, a forum with peers, and navigation requiring a minimal number of clicks to reach the desired information. Further, participants valued meeting a youth healthcare worker on a professional website, preferably over a web-cam, because of familiarity with the technology, anonymity, personal contact, and immediate response. In terms of layout, preferences were dependent upon the educational level of the participant. Lastly, participants desired a website that was both reliable and anonymous. It was concluded that online resources and support are necessary for modern youth mental healthcare.

Horgan & Sweeney (2010) considered University students' use of online mental health resources. It was found that the main reasons behind using the Internet for mental health support were anonymity, the vast amount of available information, and ease of finding and accessing information. The predominant reason against using online support for mental health was a preference for in-person contact. An additional reason included unreliability, untrustworthiness, and is perceived as impersonal. In terms of website design, the most important identified factors included confidentiality, anonymity, being able to ask questions, usability, and knowing who produced the information. It was concluded that there is a need for available reliable and high-quality mental health resources online.

In order for such sites to be successful, the target population must access them. A study conducted by Burns et al. (2010) in Australia examined the utilization of online mental health services in adolescents and young adults aged 17-25. The results indicated that 20% of the participants had experienced a mental health or substance-use problem within the past 5 years, and 21.4% of 12-17-year-olds and 33.9% of 18-25-year-olds used the Internet for sources of information regarding this problem. 33.9% of participants who reported using the Internet to contact other people of the same age group also discussed their problems online. Participants also reported utilizing Internet resources for information regarding physical or mental health problems whether or not they personally had a problem of that nature. 93.3% of participants reported using search engines rather than specific websites for information regarding mental health or substance use problems. 44% sourced information from mental health websites, and 50.7% sourced information from other websites such as government websites, online encyclopedias, medical journals, pharmaceutical information, research databases, and tertiary education websites.

25% of participants were able to identify what information was important on websites they identified as helpful. 78.1% of participants indicated that the Internet helped a little or a lot with mental health or substance use problems, and 94% felt somewhat or very satisfied with the information they received.

II.   CONCLUSION

High quality online resources for health education and health service delivery, particularly for mental health, are becoming increasingly relevant in modern healthcare. With the prevalence of psychiatric illness on the rise and the persistence of stigma surrounding mental illness in both the general public and the healthcare field, the demand for a safe, reliable place to access high-quality literature and mental health resources along with psychiatric support services has increased exponentially. Several key factors have been identified in developing such websites for psychiatry including easy-to-navigate user interfaces, access to high-quality literature, diagnostic tools, and interactive components. The available evidence suggests that current psychiatry health education and health service delivery websites require improvements.

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