Report 9

Evaluation of "Little Prince is Depressed" Website: Impact on Viewers

Abstract

The Internet can reach mass audiences and the number of registered Internet customer accounts has increased tremendously over the past few years. Yet, accessing health information is one of the most common reasons for using the Internet.

Depression is a common mental disorder that is under-recognized and under-treated. The creation of the "Little Prince is Depressed" website was aimed at educating the public about depression and its treatment, encouraging early help-seeking and reducing the stigma of depression. This evaluation was implemented to measure the effectiveness of the website in promoting knowledge about depression and to improve help seeking attitudes. Participants in the study comprised 58 students from The University of Hong Kong. They completed a battery of pre-tests consisting of general knowledge, help-seeking attitudes and awareness of potential suicide in peers, prior to reading the website and then completed a post-test afterwards, with almost all measures changing in the positive direction from pre- to post-test. A Reviewer Satisfaction Survey was also conducted with the results indicating that the website had a positive effect on students and found it useful. The findings suggest that the Internet may be an effective way to improve mental health literacy and may act as an additional tool for mental illness prevention and intervention, particularly for younger people.

Introduction

The number of Internet users has been increasing tremendously over the past two decades while the volume of World Wide Web is expanding at an even faster pace. According to figures from Hong Kong's Office of the Telecommunications Authority (hereafter, OFTA), the estimated number of registered Internet customer accounts (excluding pre-paid calling cards for dial-up access) reached 2,507,277 by the end of January 2005 (OFTA, 2005). Broadband Internet Traffic Volume by the end of February 2005 hit 334,575 terabits, which is double that of the same period for 2004. With such a high proportion of people surfing the Internet, there is a high potential to develop prevention and intervention websites to deliver knowledge, different kinds of self-help treatment and help guiding appropriate attitudes on mental health. Depression is a common mental disorder that is characterized by dark moods, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep patterns, loss of appetite, low energy, and poor concentration for at least two weeks (American Psychiatric Association, 2000). It is important to recognize the symptoms and causes of this disorder to facilitate early detection and seek proper treatment. Anti-depressants and psychotherapy are effective in 60-80% of people affected, of which can be delivered through primary care. Reducing stigma and promoting a help-seeking attitude is, nonetheless, one of the strategies in beating depression (WHO, 2004).

The "Little Prince is Depressed" website (www.depression.edu.hk) was launched in September 2004, and is the second e-learning module produced by the Centre. We aim to provide a unique and comprehensive data site about depression for the general public, especially targeted at people with mild to moderate depression and to young people who are at a risky period of developing adult psychiatric disorders (Hill, 1993; Reinherz, Giaconia, Lefkowitz, Pakiz & Frost, 1993). Therefore, it is a prime time to influence attitudes towards mental illness and foster help-seeking behaviour (Hawkins, Catalano, Kosterman, Abbott & Hill, 1999). Since stigma is associated with mental disorders and may hinder help-seeking attitudes, therefore removing stigma will help alleviating the situation and improve the awareness of depression and encourage positive attitudes about seeking psychological help. The website explains the causes of depression and its various treatments through the

journey of a depressed Little Prince. Along the journey, he consults "Miss Therapist" and is given directions to help his body and mind. By visiting the "Mind Gym", his psychological fitness is strengthened. He passes by the "Sharing Garden" to learn other's experiences and ultimately walks through the "Door to Answers" and had all his questions answered. With his courage, effort and willingness to accept help from a caring person, the Prince sees a bright blue sky again. A self-rated psychological test (CES-D Scale) on depression and referral information on various agencies that provide counseling services for the distressed individual are also included.

From September 2004 to April 2005, the website was visited by more than 140,000 people. However, the figures cannot reflect whether the website achieved its designated aims, which are to improve mental health literacy and enhance a help-seeking attitude. But this evaluation study will capture more information from participants and tell us how useful this new learning tool is. The present study aims to find out whether participants' knowledge about depression increased after reading the website and will investigate attitudes about the help-seeking behavior of adolescents. In addition, we also want to know the viewer satisfaction level toward this innovative e-learning programme.

Methodology

Subjects

Students of The University of Hong Kong (hereafter, HKU) were recruited via university Internal bulk e-mails, posters inside the campus and class visits.

The sample consisted of 58 university students (18 men and 40 women). The mean age of the participants was 20.6 years (SD = 1.41, range = 19-24), the median age was 19 years, and approximately 94.7% fell in the age range of 19 to 23 years. Out of all the samples, 44.8% were first year students, 27.6% were second year students, 24.1% third year students and 3.5% were graduate students.

Design and procedure

The research was designed as an evaluation study and consisted of a self-report pre- and post-test questionnaires. The students were asked to complete the pre-test questionnaire immediately upon arriving at the computer centre. After finishing

the pre-questionnaire, they started reading the Chinese version of "Little Prince is Depressed" website. The design of the website is based on a particular story line and composed of many interesting sites. So in order to restrict the reading time to within 30 minutes, students were asked to focus on four sites before they visited others. The four sites were Museum (explains the causes and symptoms of depression), Miss Therapist (describes various treatment methods), Mind Gym (introduces relaxation techniques, healthy living skills and anger management) and Door to Answers (frequently asked questions about depression). These four sites contain core knowledge related to depression. The post-test questionnaire was administered immediately after completion of website reading. A "satisfaction feedback form" was also administered to seek comments.

Materials

The impact of the website was assessed under three domains: (1) knowledge about depression; (2) awareness of suicide risk and (3) attitudes toward seeking professional psychological help. Table 1 showed the execution of a pre and post measurements.

Table 1
Summary of pre-post measurement design

Pre-measurement	Post-measurement
12-item Knowledge Test on Depression	
2-item Awareness Scale	
Attitudes toward seeking professional psychological help scale (ARSPPH Scale) Modified full version 29-item	Attitudes toward seeking professional psychological help scale (ARSPPH Scale) Abbreviated 10-item
	Satisfaction feedback form

Knowledge test. Knowledge about depression was assessed with 12 true and false and not sure items, which were written in Chinese. The pool of items was developed by researchers based on information presented in the above mentioned four sites. Two pilot tests were conducted to test the suitability of the content, and 15 HKU students participated in each pilot test. Each correct response was worth one point. This yielded a total score of 12, with a high score indicating greater mental health knowledge about depression. The English translation of the 12 items is listed below.

1. Symptoms among depressive patients are similar.

2. Depressive symptoms may co-exist with learning disorders.
3. Healthy living people don't get depression.
4. "Do not concern comments made from other people" reflects one of the depressive symptoms.
5. There is an apparent cause of depression.
6. Anti-depressant drugs are non-addictive.
7. Depressive symptoms may emerge when there is a low level of cortisol present.
8. Depressive people feel that life is unfair.
9. Depressive symptoms include a sudden increase or decrease in body weight.
10. The causes of depression are not related to genetic factors, only psychological and environmental factors mainly.
11. Depressive symptoms may be found along with drug abuse.
12. When someone is suffering from depression, saying comforting words like "Relax! Just don't think about it" can make them feel better.

Awareness of potential suicide. To assess self-reported responses to the awareness of potential suicide in peers, two scenarios were adapted and modified from Shaffer's study (1988, cited in Kalafat & Elias, 1994). For each, respondents indicated the likelihood that they would carry out each action in response to the two scenarios (1 = definitely would, 2 = probably would, 3 = probably would not, 4 = definitely would not).

Scenario 1

If a friend began to lose interest in activities and friends, and sometimes said things like s (he) wasn't much good to anyone, would you:

a) Mind your own business and let him/her have their privacy.
b) Ask him/her if something was bothering them.
c) Tell another friend about what you noticed about your friend.
d) Try to get him/her to talk to a student counselor.

Scenario 2

If a friend told you he/she is thinking about killing themselves, would you?

a) Respect his/her privacy and keep it a secret.

b) Talk to your friend without getting anyone else's help.

c) Tell your friend to call a hotline.

d) Try to get him/her to talk to a student counselor, doctor or psychiatrist.

The expected direction of changes in mean scores between the pre-and-post test under the awareness evaluation by type of question and scenario.

Scenario	Question	Expected direction
1	a	↑
	b	↓
	c	↓
	d	↓
2	a	↑
	b	↑
	c	↓
	d	↓

Scale of attitudes toward seeking professional psychological help (ARSPPH Scale). The scale has two forms – a full and a shortened form. The full scale was developed in 1970 (Fischer & Turner, 1970), consists of a 29-item Likert scale with four subscales: Recognition (recognition of need for professional psychological help), Tolerance (tolerance of the stigma associated with seeking psychological help), Interpersonal (interpersonal openness), and Confidence (confidence in the mental health profession). A shortened form (ARSPPH-SF) was developed in 1995 (Fischer & Farina, 1995). Using factor analysis, 10 items representing essentially the same constructs as the original instrument were retained. Scores of the shortened form correlated .87 with the full-scales. Because of its brevity, the shortened form is easier and less obtrusive for use in research. Both scales scored using a 4-point scale rating, disagree (1), partly disagree (2), partly agree (3) and agree (4). A total score was obtained by adding up the item scores. A high total score on the scale indicates a positive attitude toward seeking professional help for psychological problems. For the pretest, the full scale was used. Two scores will be derived from it; a score from the

29-item (full scale) and a score from 10-item (shortened form) scale. The 29-item score will enable a comparison with other overseas studies, which will be discussed in other research papers, and the 10-item score will be used in this study. The shortened scale (10-item) was used for the post-test.

Modifications of the scale have been made including word replacements appropriate for students in educational settings and updating of the language for local context. Replacing mental problems with emotional/personal problems, psychiatrist is changed to counselor or other professional help, and mental hospital is changed to inpatient psychiatric unit.

Past experience. Students were asked three yes/no questions related to their experience in seeking help. The questions focused on whether they had ever considered or consulted professionals for emotional problems, whether their family/friends had considered or consulted professionals for emotional problems, and whether they have ever assisted them in seeking help.

Satisfaction feedback form. This was composed of close-ended and open-ended questions about their comments on the design, attractiveness and volume of information related to depression. Demographic information including age, gender, educational level and other vital statistics were also recorded. .

Results

All analyses were undertaken using SPSS version 12.0. Descriptive statistics for all measurements at the two points are presented in Table 2. A series of t-tests were also used to determine whether there were significant changes from pre-test to post-test on each of the measures. With a Bonferroni adjustment for multiple comparisons, the significance level was set at $p<.005$. Both knowledge and attitude measurements had a significant change from pre-test to post-test in the expected directions. As for the Awareness of potential suicides in peers, for the first scenario, “If a friend began to lose interest in activities and friends, and sometimes said things like s(he) wasn’t much good to anyone, what would you do?” t-tests carried out on each of the actions indicated two significant action changes, the action of “Mind your own business and

let him/her have their privacy" changed to a more unlikely action; and " try to get him/her to talk to a student counselor" to a more likely one. In response to the second scenario, "If a friend told you he/she was thinking about killing themselves, what would you do?" the t-test revealed that they were more likely "to tell the friend to call a hotline" and "try to get him/her to talk to a professional". As for all the rest, changes in the measures did not attain significance but showed a more favorable empathic and helpful response to a potentially or overtly suicidal peer.

Table 2
Results of pre-and-post-test on knowledge, and awareness on potential suicide and the ARSPPH-SF Scale

Measures	Range	Pre-test		Post-test		Sig.
		Mean	SD	Mean	SD	
Knowledge (N=58)	1-12	6.71	2.26	9.83	1.34	0.000*
Awareness (N=57)	1-4					
Scenario 1						
1a		2.81	0.67	3.33	0.61	0.000*
1b		1.54	0.68	1.49	0.66	0.616
1c		2.11	0.72	2.04	0.73	0.560
1d		2.44	0.78	1.46	0.57	0.000*
Scenario 2						
2a		3.25	0.91	3.40	0.86	0.172
2b		2.77	0.73	2.84	0.70	0.568
2c		1.96	0.63	1.46	0.57	0.000*
2d		1.51	0.54	1.28	0.45	0.001*
Attitudes (10-item) (N=57)	1-30	16.14	3.94	20.82	3.39	0.000*

* p<.005

As for seeking psychological help, about 38% (n=22) of the participants reported that they had considered or consulted professional bodies for emotional problems and 48% (n=28) had family or friends who also went through the same experience.

Results of the Viewer's Satisfaction Survey

At the end of the evaluation, a viewer satisfaction survey on the website was also carried out. We wanted to find out which aspects of the website were most appealing to our participants and which needed further improvement. 8 close-ended questions

with a 5-point scale (5 being the best and 1 the worst), along with 2 open-ended questions were used. A total of 58 pieces of feedback from the participants were received. The results were as follows.

Close-ended questions

Depression information. Over 95% of participants found that the information provided was sufficient (rating = 4) or very sufficient (rating = 5) while 70% of them would apply the knowledge they learnt in their daily life i.e. rated yes (rating = 4) or definitely yes (5). They were pleased to gain more knowledge and knew what to do if they or someone they knew did have depression. One participant, however, said that the website did not arouse their interested in learning more about depression, while the rest either showed positive responses (rating = 4 or 5) or stood neutral (rating = 3).

Design of the website. Not only did participants like the main character, the Little Prince, they also found the presentation style attractive. The mean score for "whether you liked the Little Prince" was 4.24 while presenting depression in a more light-hearted style recorded a 4.45. So, it was not surprising to see that after reading the website, participants were more interested in depression (mentioned above) and motivated them to start understanding more about it. The website was designed as the "journey" of the Little Prince, which made it easier for the participants to follow. Nearly all of them (57/58) found it user-friendly.

Overall. All participants expressed positive feedback, which ranged from neutral (rating=3) to definitely yes (rating=5), with the mean score of 4.22. They also recommend it to their friends and families although one participant expressed a dislike for the website.

Open-ended questions

The elements t(s) participants liked most. Design, color, cartoons and animations were deemed beautiful and attractive. The music as well was relaxing and pleasant, which helped participants concentrate on the website. The visual and audio outputs gave them a good impression and prompted them to read through the whole

website. They easily accepted the various aspects of depression and were willing to know more by reading comics and a life-like e-journey. Some of the participants had this to say:

- "Displaying information in the form of the Little Prince's journey was very interesting and easy to understand. It was also very practical, user-friendly and not too technical."
- "The Animated Presentation was very attractive."

The website overall was informative and could be easily understood. Participants learnt more from the website and found the information practical especially on topics like stress management. It also corrected their myths about depression. Some even said they would use what they have learnt to help themselves, friends and families whenever necessary. They appreciated that it was an evidence-based website.

The part(s) that needed improvement. There was some confusion regarding the hyperlinks of some sections. Participants did not know where they were after clicking a hyperlink e.g. "Miss Therapist". Therefore, clearer indications and ordering were needed. It was suggested to add a discussion board / chat-room for visitors to express and exchange ideas. They also preferred more interactive elements like interviews of psychologists as well as psychological tests. Although many participants found the website informative, some said content could be more precise in order to avoid duplication. One of the participants stated:

- "Fewer words are better because too many words it makes the website less attractive to the reader."

Moreover, the time required for loading animation and graphics was too long. Introducing links to related websites and organizations was also suggested.

Overall, participants found the website a practical and useful one. They could use it to help themselves as well as someone they knew. Despite some technical problems, it was generally user-friendly and allowed for easy navigation. Greater promotion efforts were recommended, so that more people could learn about it.

Discussions

The preliminary evaluation of the website showed encouraging results. Intervention was successful in raising students' scores on knowledge, awareness and attitudes, which became more open toward seeking professional help for emotional problems as a result of greater knowledge. These cognitive variables are considered to be two important precursors in the help-seeking process (Greenley, Mechanic, & Cleary, 1987; Hourani & Khlat, 1986; Lockwood, 1984) and reduce stigma (Wolff, Pathare, Craig, & Leff, 1996).

In the knowledge test, one of the statements was "Antidepressant drugs are non-addictive " Only 6 (10%) students answered the statement correctly with a "yes" in the pre-test, which indicated that a majority of people had misconceptions about the addictive nature of anti-depressants. The results coincided with other studies (Angermeyer & Matschinger, 1996; Jorm *et al*, 2000; Priest, Vize, Roberts, Roberts & Tylee, 1996) where antidepressants were thought to be potentially addictive and dulled symptoms rather than solved the problem. False beliefs have to be eliminated while the benefits of antidepressants should be publicized more widely. This would help reduce the barriers to seeking psychiatric help.

Another encouraging finding showed that after the students read the website, concerns about a friend who may need professional assistance was raised. Their intention to tell their friends to seek help also increased. A study in Hong Kong (Cheung & Liu, 2005) indicated that student's intention to seek help from social services was extremely low. Furthermore, previous research well reported that while peers are the first to detect suicidal intent, they appear to be unaware of an appropriate response or course of action to take (Kalafat & Elias, 1995). This result has implications for public health education aimed at the prevention of suicides and early detection of mental illness. With the creative design of the website targeted at young adults, it can help strengthen their appropriate response to peer suicidal behavior and motivate young people to seek help, especially from professionals.

A prevalence study (N=2209) conducted by our Centre from 2003 to 2004 indicated that about 9% (n=199) of those aged 15-59 suffered from depression. In our evaluation sample, 38% (n=22) of students had considered or had sought professional help and 48% (n=28) indicated that their friends or family members shared the same

experience. The lifetime risk of developing an emotional disturbance is so high that the majority of the population will at some point in time have direct experience of such a disturbance, either in themselves or in someone close. To further exacerbate the problem, a local study by Tsang and his colleagues (Tsang, Tam, Chan & Cheung, 2003) reported that myths about mental illness persisted in their respondents' minds and had a tremendous impact on individuals recovering from a mental illness. Therefore, an aggressive information campaign should be launched to call for public attention to emotional disturbances, and to remove negative beliefs and attitudes while encouraging the support of others in the community.

Jorm and his colleagues (Jorm *et al*, 1997) introduced the term 'mental health literacy' and defined it as "knowledge and beliefs about mental disorders which aid their recognition, management or prevention". It includes the ability to recognize specific disorders, knowing how to seek mental health information, knowledge of risk factors and causes of self-treatments, professional help currently available, and attitudes that promote the recognition of appropriate help seeking. A high level of public education on mental health literacy would more likely make early detection of depression and appropriate intervention sought. A majority of people who are depressed are under-recognized and under-treated; it could be due to either stigmatization or just a lack of knowledge about the illness.

Potentially the Internet represents a viable avenue to disseminate vast amounts of information about mental health literacy. It is increasingly used for both health information and advice. The Internet also has advantages as a format for delivering mental health knowledge. It also offers an opportunity to provide tailored prevention tools to a large group of people by creating specific combinations of text, and audio to match the learning styles of targeted users. If we link up the e-learning programme with interventions or services available for this specific target group, the impact would be more substantial. Studies (Christensen, Griffiths & Jorm, 2004) evaluated two mental health websites in Australia providing Cognitive Behaviour Therapy (CBT) and Psychoeducation, and the result showed that both were effective in reducing symptoms of depression when delivered through the Internet. Websites are a practical and powerful medium, other than books or traditional therapy sessions, in increasing the public's knowledge about depression, providing interventions and,

most importantly, it can get into people's houses easily and allow users to remain anonymous. This may reduce the embarrassment and shame that prevents some people from gaining access to sensitive information. Based on the present findings, the potential utilization of the web for mental health education and intervention can and should be further developed and strengthened.