

Self-Help Treatments for Depression: Do They Work?

GORDANA CULJAK

Department of Information Systems
Faculty of Information Technology
University of Technology, Sydney
PO Box 123
Broadway NSW 2007
Sydney
AUSTRALIA

<http://it.uts.edu.au/contact/view/gordana>

Abstract: - This paper aims to explore the progress to date on whether Internet self-help has been an effective treatment modality for depression. The study will focus on mild to moderate depression, as it is of high prevalence and users may possibly benefit from these measures. Its aim is to develop an understanding of what is known to date in terms of the effectiveness of self-help for depression. The Internet is growing as an influential information resource. Over one billion out of the 6 billion people in the world use the internet. It has been found that only four in ten people with diagnosable behaviour or mental disorders ever seek help from a health professional. Reaching out for help over the Internet is a way of avoiding the social stigma attached to depression. Limitations of current research are explored and a proposal put forward towards answering the research question of whether Internet Self-Help works for depression and related disorders. Taking the collective limitations and levels of evidence into account, these studies indicate promising potential for Internet Self-Help sites for mild to moderate depression. Proposed enhancements to build on current research are suggested.

Keywords: Self-help, Internet, Depression, Treatment, Limitations, Health

1. Introduction

The number of people with internet access over 300 million [1]. Internet users look for more information on depression than they do for cancer or heart disease [2]. It has been estimated that 7.5 million people tried St. John's Wort for depression. It has also been reported that in 12 months, 5% of American adults attended self-help groups [3] and that over 60 million people search for health information on the Internet [4]. By the time people reach out to get help; Phillips et al (1999) [5], found they take on average over 1½ years, by which time their symptoms are likely to have worsened, and take more time and health care cost to treat. It has been found that only four in ten people with diagnosable behaviour or mental disorders ever seek help from a health professional [6]. Globally, depression affects about 121 million

people [7]. It causes extensive non-fatal disability worldwide and is on the increase. It is predicted that it will be the second most common cause of global disability by 2020 and is currently a major risk factor for suicide and suicidal behaviour [8]. Depression is a major health issue in young people, with a prevalence of depression in the 20-24 year old population of approximately 10% [9,10]. Internet-based intervention has been suggested to be on the increase as a technological innovation [11]. Over one billion out of the 6 billion people in the world use the internet [12]. By providing accessible anonymous, innovative approaches to these mental health issues, less reliance on the health care system due to not only self-help, but also due to taking action earlier, this may decrease the severity and longevity of depressive signs and symptoms, as well as cutting health care costs.

2. Objectives

This paper aims to explore the role of the Internet as an innovation and possible avenue to self-help for those individuals that would otherwise not seek help at all, will take too long to do so. Therefore, the aims of this study are to review the current status of the effectiveness of Internet self-help for depression. The author is particularly interested in self-help as a standalone treatment for mild to moderate depression or as an adjunct treatment in more severe cases of depression. Potential enhancements for research to date will be explored and a proposal put forward towards answering the research question of whether Self-Help works for depression and related disorders.

3. Defining self-help

There is no precise definition of where therapist-directed treatment stops and self-help starts. For the purposes of this paper, self-help is defined as activities that are undertaken independently of

others' help, but are a step beyond information seeking. These activities may be a result of, but are not limited to being better informed. They are about doing something, not just reading about something. Examples include physical or mental exercise as a result of having interacted on the Internet.

4. Does internet self-help work for depression?

Although a plethora of self-help and internet intervention papers are available, none can be found that are:

- randomized controlled trials;
- compare the effectiveness of standalone Internet Self-help Sites to no-access controls, and;
- focus on depression,

other than those included here. These studies were found by searching for internet-based self-help evaluation studies that were specific to depression. The results are shown in Table 1.

Study & Year	Mental Health Issue	Methodology	Subjects	Details Subject and Groups	Limitations	Findings
Clarke et al., 2002 ^[13]	Depression	RCT	Patients	n=144/6994 randomised to experimental web site n=155/6996 to no access-control group	Biased response sample	No effect overall
Clarke, et al., 2005 ^[14]	Depression	RCT	Patients	Internet self-help with postcard and telephone reminders, versus controls	255/12051 (2%) participated, also a biased response sample	Intervention group reported a positive effect over the control group
Christensen, Griffiths and Korten, 2002 ^[15]	Depression	Prospective Cohort	General Public	Web-based survey	Respondents not completing all modules	Depression scores decreased significantly
Christensen, Griffiths	Self-help websites Vs	RCT	General Public	Paper-based post-intervention questionnaire	Only 2% of the of the community	Internet Intervention more

and Jorm, 2004 ^[16]	attention placebo				participated in the study	effective than control
Selmi, et al., 1990 ^[17]	Major and Minor depression	RCT	Patients	Compared pre-Internet computer, therapist and controls	Volunteers used	Computer and therapist groups improved significantly
Andersson, et al., 2005 ^[18]	Depression	RCT	General Public	Web-based self-help plus web discussion group Vs web discussion group only	Self-selected through advertisement, no non-self-help control	Therapy plus discussion group more effective than discussion group only
Marks et al., 2003 ^[19]	Depression	Prospective Cohort	Patients	Therapy alone Vs Internet and therapy	Self-referral	Useful adjunct
Houston Cooper and Ford, 2002 ^[20]	Depression	Prospective cohort	Users of online forums	N=103	Volunteers	Frequent users had higher resolution rate depression

Table 1: Findings on Internet self-help effectiveness for depression

5. Findings of Studies to 2006

There are five randomized controlled trials was found [13,14, 16-18] which showed varying results. Two were by Clarke et al., in 2002 and 2005 [13,14]. Their first study showed no overall effect, but this may be due to the limitations of the study. Bias most likely skewed the results as the “recruitment procedures attracted a more seriously depressed sample than intended, resulting in participants who may have been too depressed to have benefited from such a low intensity, self-help program”. This paper found a modest effect in subgroups with low levels of depression at intake, which is consistent with the proposed explanation that no effect was found due to a skewed sample. They subsequently, therefore conducted another study in 2005 which included a follow-up embedded in the study design, resulting in greater follow-through of the CBT program, better completion. And as a result, this showed a positive effect in favour of the Internet intervention group versus the control group.

However a major limitation of this study, like the other randomised controlled trials to date, is that only

a very small percentage (2%) participated in the study and although results may be positive in these randomised controlled trials, it is also possible that the participants are self-selected into these trials, by voluntarily responding and representing only a small sample of the original population approached, which suggests selection bias. This is a common limitation in the large randomised controlled trials conducted to date into the effectiveness of Internet self-help websites versus controls.

Christensen et al., (2002) [15] showed the Internet was more effective than the control group and followed this up with a randomised controlled trial which showed a significant benefit in favour of the Internet intervention group in 2004. This was also included here as a relevant computer-based study of interest that can be easily adapted to the online environment for wider dissemination.

Christensen, Griffiths and Korten (2002) [15] found that anxiety and depression scores decreased significantly as individuals progressed through the program. A limitation of the study was the fact that

respondents dropped out before they completed all modules. As an improvement in depression scores is correlated with progression through the program, this suggests that the full potential of these findings was not perhaps realized. Although a control group is needed and a randomization is ideal, this study nevertheless is a positive indicator for Internet self-help access and use having a beneficial impact on people with signs and symptoms of depression. Therefore they did a subsequent study which was published in 2004 and showed [16] showed significant reduction and symptoms of depression. As in the previous study, however, only 752 of the invited 27,000 people agree to participate in the survey. This suggests selection bias and makes it therefore difficult to generalise results to the wider population.

Selmi et al., (1990) [17] found that treatment, delivered via computer or therapist, significantly improved depression scores. Being a relatively early study insofar as the internet is concerned, this study is not as relevant as internet versus control comparison studies, but was included in this review because it is interesting to see that a proven treatment (CBT) is shown to be effective even through a computer medium. This could easily however be adapted to the current Internet forum of today.

In the Andersson et al., (2005) study, there were 36 people randomised to the treatment group and 49 to the control, which is small out of the general population of subjects approached through print media in the general Swedish population [18]. This also suggests possible selection bias. However, this study is harder to compare because of the absence of the control group.

Marks et al., (2003) [19] evaluated internet self-help sites in patients with depression and related disorders, including anxiety, phobia and panic, and obsessive-compulsive disorder. Limitations include not randomizing or matching subjects; they were self-referred and self-reported. Though it did not evaluate standalone internet self-help compared to a control group which was the intention of this paper, this study was useful however, as it showed that internet self-help is useful as an adjunct treatment. Marks et al., (2002) describes self-help as clinician

“extenders”, not “replacers”. Similar to the Cristensen et al., (2002) study, not all subjects completed the program.

Houston, Cooper and Ford (2002) [20] conducted a similar study to Christensen et al (2002), investigating the effectiveness of group therapy. Limitations include not having a comparative control group and volunteers being used, which would inherently attract more active users. There were two web-based surveys which showed a positive effect and one other was a pre-Internet randomized controlled trial.

6. Summary of Results to Date

Taking the updated and more conclusive results were the same group of researchers has completed a more recent study, a review of literature to date, shows that six out of the eight studies exploring the effectiveness of Internet self-help for depression, show an overall positive effect. One showed no effect [13]. Another by Andersson, et al., (2005) [18] assumed a positive effect and enhanced current research by focusing on the difference between groups, where Web-based self-help was an adjunct to live discussion. Therefore, taking the collective limitations and levels of evidence into account, these studies indicate promising potential for Internet Self-Help sites for mild to moderate depression.

7. Limitations of Studies Conducted to Date

Although the current studies showed promising results, they are not without their limitations. With the intention of being able to generalise results to the wider community population, the randomised controlled trials conducted to date, used in various means of advertising and approaching large populations in the community as a whole for recruitment into their studies. Unfortunately, this method of recruitment yielded a very low response rate (approximately 2%) in the current trials to date. This suggests that this very small sample of the original population approached are subject to selection bias. This leaves the question of whether the final results can be generalised to the wider

population or whether this 2% is subject to volunteer bias, and whether they also have motivation is different that differs to the general population, compared to the general population. If the response rate was a lot higher than 2%. It would be more feasible to generalise the results.

8. A Proposal for Enhancement to Current Knowledge

In order to add to the existing knowledge to date, the author intends to conduct a two-phase longitudinal and randomized controlled trial evaluating the effectiveness of the Internet as a self-help intervention, compared to information-only controls in young (18-24 year old) University aged students. Young people in this age group are of particular interest as they have a high prevalence of depression. They also tend to be frequent users of the internet. Therefore it is suggested that the internet may be an effective medium for access to pathways to care for depression, particularly in young people who access and use these media as much as, or more than, the general population. A benefit of this which is different to studies published so far, is that the author does not expected to get a seriously depressed sample due to this careful screening process for mild to moderate depression. Once these students who show signs and symptoms of depression are identified, they will be matched for important baseline characteristics such as age and gender before randomisation. The groups will be followed and at the end of the study period compared to evaluate whether internet self-help as an intervention for depression is effective compared to the no-access, information only, control group in this population.

With such a study design in mind, it is expected that this study would be feasible, would have a higher response rate than 2% of the initial target audience approached, and would be generalisable to the select population in question. It would therefore also provide more conclusive evidence on the effectiveness of Internet self-help for depression in this age group, which could then be applied to other similar studies with differing populations.

9. Conclusion

With such high prevalence, depression is an increasingly important issue, and coupled with the fact that people often do not seek help, self-help Internet interventions provide a possible solution to this growing disease burden. The studies considered in this paper have their merits and showed promising results, but they are not without their limitations. A randomised controlled trial including more of the originally intended target audience, with a high response rate from the original population approached, will provide more conclusive evidence of the effectiveness of Internet self-help websites as a stand-alone intervention for, mild to moderate depression, or as an adjunct to primary care. In this is proven effective, it could lead to other similar studies that can be generalised to a wider population.

10. References

- [1] *DataMonitor PLC, cited in The Financial Post, March 1, 1999. Worldwide Internet Use, [Online] Available at: http://www.media-awareness.ca/english/resources/research_documents/statistics/internet/worldwide_internet_use.cfm*
- [2] *Taylor, H. Explosive growth of "cyberchondriacs" continues. (The Harris Poll #47) 5 August 1999. Available at: http://www.harrisinteractive.com/harris_poll/index.asp?PID=117*
- [3] *Eisenberg, D.M., Davis, R.B., Ettner, S.L., Appel, S., Wilkey, S., Rompay, M.V. and Kessler, R.C. (1998). Trends in Alternative Medicine Use in the United States, 1990-1997. Results of a Follow-Up National Survey. *Journal of the American Medical Association*, 280(18): 1569-1575.*
- [4] *Nickelson, J.D. (2000). Telecommunication Trends and Professional Practice: Opportunities and Challenges. Practitioner Focus: Winter.*
- [5] *Phillips, L., Yung, A.R., Hearn, N., McFarlane, C., Hallgren, M. and McGorry, P.D. (1999). Preventative mental health care: accessing the target population. *Australian & New Zealand Journal of Psychiatry*. 33(6):912-7.*

- [6] Kessler, R.C., McGonagle, K.A., Zhao, S., Nelson, C.B., Hughes, M., Eshleman, S., Witten, H. and Kendler, K.S. (1994). *Lifetime and 12-Month Prevalence of DSM-III-R Psychiatric Disorders in the United States: Results From the National Comorbidity Survey*. *Archives of General Psychiatry*. 51(1):8-19.
- [7] World Health Organisation (2003). *Mental Health Resources. Depression [Online]* Available at: http://www.who.int/mental_health/management/depression/definition/en/
- [8] Murray C.J.L. and Lopez, A.D. (1996). *The global burden of disease: A comprehensive assessment of mortality and disability from diseases, injuries and risk factors in 1990 and projected to 2020*. World Health Organisation, World Bank and Harvard School of Public Health.
- [9] Aalto-Setälä, T., Marttunen, M., Tuulio-Henriksson, A., Poikolainen, K. and Loennqvist, J. (2001). *One-month prevalence of depression and other DSM-IV disorders among young adults*. *Psychological Medicine*. Vol 31(5): 791-801.
- [10] Haarasilta, L., Marttunen, M., Kaprio, J. and Aro, H. (2001). *The 12-month prevalence and characteristics of major depressive episode in a representative nationwide sample of adolescents and young adults*. *Psychological Medicine*. 31(7):1169-79.
- [11] Kavanagh, D.J. and Mueser, K.T. (2001) *The future of cognitive and behavioral therapies in the prevention and early management of psychosis: Opportunities and risks*. *Behavior Therapy*. Vol 32(4): 693-724.
- [12] Miniwatts Marketing Group (2006). *Internet World Stats. User and population statistics (2006)*. [Online] Available at: <http://www.internetworldstats.com/stats.htm>
- [13] Clarke, G., Reid, E., Eubanks, D., O'Connor, E., DeBar, L., Kelleher, C., Lynch, F. and Nunley, S. (2002). *Overcoming Depression on the Internet (ODIN): A Randomised Controlled Trial of an Internet Depression Skills Intervention Program*. *Journal of Medical Internet Research*. 4(3): e14.
- [14] Clarke, G., Eubanks, D., Reid, E., Kelleher, C., O'Connor, E., DeBar, L., Lynch, F., Nunley, S. and Guillon, C. (2005). *Overcoming Depression on the Internet (ODIN) (2): A Randomised Controlled Trial of a Self-Help Depression Skills Program With Reminders*. *Journal of Medical Internet Research*. 7(2): e16.
- [15] Christensen, H., Griffiths, K.M. and Korten, A. (2002). *Web-based Cognitive Behavior Therapy: Analysis of Site Usage and Changes in Depression and Anxiety Scores*. *Journal of Medical Internet Research*. 4(1):e3.
- [16] Christensen, H., Griffiths, K.M. and Jorm, A.F. (2004). *Delivering interventions for depression by using the internet: randomised controlled trial*. *British Medical Journal*. [Online] Available at: doi:10.1136/bmj.37945.566632.EE
- [17] Selmi, P.M., Klein, M.H., Greist, J.H., Sorrell, S.P. and Erdman, H.P. (1990). *Computer-Administered Cognitive-Behavioural Therapy for Depression*. *The American Journal of Psychiatry*. 147(1): 51-56.
- [18] Andersson, G., Bergstrom, J., Hollandare, F., Carlberg, P., Kaldo, V. And Ekselius, L. (2005). *British Journal of Psychiatry*. 187: 456-461.
- [19] Marks, I.M., Mataix-Cols, D., Kenwright, M., Cameron, R., Hirsch, S. and Gega, L. (2003). *Pragmatic Evaluation of computer-aided self-help for anxiety and depression*. *British Journal of Psychiatry*. 183: 57-65
- [20] Houston, T.K., Cooper, L.A. and Ford, D.E. (2002). *Internet Support Groups for Depression: A 1-Year Prospective Cohort Study*. *American Journal of Psychiatry*. 159: 2062-2068.