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REVIEW OF FREE TO ACCESS COMPUTERISED COGNITIVE BEHAVIOUR THERAPY WEBSITES

REVIEW PROVIDED BY

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This review covers the current free to access computerised CBT websites and sets out to provide the relevant background, a description of the website literature relevant to those websites and a discussion of the emerging issues.

The review that follows assumes that the reader has seen the report:

“Systematic review and economic evaluation of computerised cognitive behaviour therapy for depression and anxiety”,

Commissioned by the Health Technology Assessment NHS R&D Programme L10: No 33 (authors Kaltenthaler, E., Brazier, J., DeNigris, E., Tumur, I, Ferriter, M., Beverley, C., Carry, G., Rooney, G., Sutcliffe, P. - Published in September 2006).

Background

In October 2006, the population of the world was approximately 6,499,000,000 of whom some 1,086,000,000 were internet users. This represents 16.7% of the world population. A subset of this data shows that, in the European Union, 51% of the 240 million population are internet users and, in the United Kingdom, 37.6million of a population of 60 million, i.e. 62.5%, were internet users (Miniwatts Marketing Group <http://www.internetworldstats.com>).

A recent study (Powell and Clarke, 2006), probably the first of its kind, examined a random sample of individuals aged 18 years or over, from the database of Oxfordshire General Practice Patients and looked specifically at mental health information seeking on the internet. This demonstrated that the internet had been used as a source of mental health information by over 10% of the population studied and, significantly, by over 20% of those with a history of mental health problems. Twenty four per cent of the study

population identified the internet as one of the top three information sources that they would use if they were to have mental health problems – three times as many as would use NHS Direct. Breaking down these statistics even further, it is clear that the group with the highest access are 18 to 29 year olds, those in employment and students (90% or thereabouts). Those with the least access are people over 70 years of age and those with disabilities.

A survey of patients carried out in the spring of 2006 in the USA (Adler 2006) demonstrates quite clearly that, in the USA at least, the great majority of patients would like to communicate with their physicians on line and that (again in the USA at least) patients of all ages are currently ready and willing to pay a small annual fee for on line services with their primary care physician.

These studies reinforce the view that, as time goes on, the internet will become even more important to those with mental health problems.

Free to access websites

This review has identified three free to access websites. These are:

1. MoodGym (<http://moodgym.anu.edu.au>)
2. Living Life to the Full (<http://www.livinglifetothefull.com>)
3. Feel Better (<http://www.kpchr.org/feelbetter/>)

In addition, the review identified another free to access programme: Climate - Clinical Management and Treatment Education (<http://www.climate.tv>) which was developed by the World Health Organization Collaborating Centre at the University of New South

Wales in Sydney, Australia. While this programme does not have a cost, it needs to be prescribed by a GP and, furthermore, the GP may charge for supervising the patient's treatment, which includes CBT.

Unlike a search of the literature for studies in various areas, the identification of free to access CBT websites proved to be a very difficult task. Typing the keywords: *self-help and depression*, into Google produces over 400,000 results. The writer of this report had to rely on personal knowledge and word of mouth to reach the conclusion that the above three websites are the only free to access CBT resources available. Having said that, the writer of this review opened the web pages for the first 50 matches on Google for the key words : *self help depression* : and found a very wide range of resources of a very wide range of quality. It is interesting to note that many websites listed in the first 50 were primarily aimed at selling self help books, medications or promoting commercial services.

The review identified some CBT resources on line, many of which come from the USA, which come at a cost. For example, <http://www.thinkwell.co.uk> (a British programme) costs £14.99 to access a fairly standard, computerised CBT programme for depressive symptoms, which in many ways is similar to the free to access programmes reviewed below. There are other interesting developments – for example in January 2007 an online version of a previously developed interactive CD (Overcoming Bulimia designed by Dr Chris Williams of Glasgow University and Dr Ulrike Schmidt of the Institute of Psychiatry, London), using a cognitive behavioural approach, is to be launched. The online version will be used in clinical units, which will pay a licence fee of approximately £500 and which may be accessed by up to 50 users. As will be noted below, such promising developments need to be monitored. Internet based CBT, which is available at

a cost rather than free, is not the subject of this review and it is not mentioned in the HTA report. Nevertheless, because such resources have potential importance the topic will be mentioned below in the conclusion and recommendations.

MoodGym (<http://moodgym.anu.edu.au>)

MoodGym was developed at the Australian National University by a team led by Professor Helen Christensen and released in April 2001. The development was funded by a grant from the Australian Capital Territory Department of Health, Housing and Aged Care and the Research Infrastructure Block Grants Scheme of the Australian National University. The chief investigators of MoodGym have been funded by grants from the National Health and Medical Research Council of Australia. The continuing research carried out on the Moodgym website has also been funded by the National Health and Medical Research Council of Australia.

The site comprises five modules, which are planned to be undertaken sequentially. Access to the site is simple. It requires registration, using one's name, e-mail address and password.

Each module takes between 30 to 45 minutes to complete, but users can opt to skip sections. On-line assessments include the Goldberg Depression and Anxiety Scale.

The first module introduces the site characters and models patterns of dysfunctional thinking and demonstrates the way that mood is influenced by thinking, using animated diagrams and interactive exercises.

Module 2 describes types of dysfunctional thinking, the methods to overcome them and provides self-assessment of 'warpy' (dysfunctional) thoughts.

Module 3 describes behavioural methods to overcome dysfunctional thinking and includes sections on assertiveness and self esteem training.

Module 4 assesses life events/stress, present events and activities and provides three downloadable relaxation tapes.

Module 5 covers simple problem solving and typical responses to relationship breakup. The workbook exercises are integrated seamlessly into each of the modules.

As with the other two programmes reviewed below, the programme is interactive and can be bookmarked; thus allowing the user to visit the website for short periods and return at will.

Christensen et al (2002) provided evidence that site usage was enormous. For the first 181 days that the site was open in 2001, the site recorded 817,284 hits and 297,046 page views. On average, each session lasted 9.47 minutes, but many visitors spent less than one minute on the site, during which time they viewed only one or two pages. Nevertheless, approximately 20% of the sessions lasted sixteen minutes or more. This study also demonstrated quite clearly that visitors to the website had high levels of anxiety and depression relative to population samples.

Very recently, Professor Christensen has informed us that there are about 900 visits per day (not hits) to the site, and during 2006, there have been 56,000 new registrants (this requires that

individuals sign on as participants in evaluation trials). Most are non-Australian - highest international users are from US, and UK.

Living Life to the Full ([http:// livinglifetothefull.com](http://livinglifetothefull.com))

This programme was developed in Glasgow by Dr Chris Williams and is supported by the NHS Depression Alliance Scotland and the Centre for Change and Innovation. The internet programme is based on a community based evening class and self-help manuals.

Living Life to the Full is described as a life skills course that aims to provide access to high quality, practical and user-friendly training in life skills. The course aims to teach both knowledge and skills in handling the various demands that we all face in life. The course covers:

- Understanding why we feel the way we do
- Practical problem solving skills
- Using anxiety control training relaxation
- Overcoming reduced activity
- Helpful and unhelpful behaviours
- Using medication effectively
- Noticing unhelpful thoughts
- Changing unhelpful thoughts
- Healthy living – sleep, food, diet and exercise
- Staying well

The site includes sound and video clips and text and various handouts are provided. The site also refers to commercially-available workbooks, which are all based upon a cognitive behavioural approach. The Living Life to the Full website has a number of links to other life skills and cognitive behaviour therapy resources, including free self-help leaflets, NICE reviews relevant to CBT and a very wide range of information from practitioners.

Dr Williams has provided some very helpful information regarding site usage. Overall, there have been over 1.7 million hits on the site, with the average number of hits running at between 8,500 and 11,350 per day. As of April 2006, there were 5,861 registered users. The majority of persons using the site are from the UK (95.8% and, of those persons, 63% originated from Scotland) Dr Williams notes that one of the peak times for activity followed the National Depression Awareness Week. Dr Williams informs us that there is now some outcome data, with publications likely to be forthcoming in the near future. However, it needs to be said that the research funding report given to the site is, by comparison with MoodGym, fairly small.

Feel Better – Learning to overcome depression (<http://www.kpchr.org/feelbetter>)

This website was developed at the Kaiser Permanente Center for Health Research in Oregon by Dr Greg Clarke. Kaiser Permanente is a major health management provider in the USA. The website is similar in many ways to Living Life to the Full and MoodGym and is organised like a book with different chapters and sessions. The original programme is also available in book form. Each session takes about five to ten minutes to complete and the following are the main contents:

- What is depression?
- What causes depression?
- Your thoughts and depression
- Identifying irrational thoughts
- Positive counter thoughts
- Creating positive counter thoughts
- The ABC method
- Practice and tips for making it work.

Ease of Use and quality of programmes

All three programmes are very easy to access. In many ways they are very similar. In the opinion of the writer, they compare favourably, in terms of ease of use and interactivity, with the programmes examined in the HTA systematic review. The Free to Access sites are all based on a cognitive behavioural approach to depression and anxiety.

Review of literature

Unfortunately the literature in this area is very sparse. Two of the sites – MoodGym and Feel Better (Learning to Overcome Depression) have been subject to outcome research. As noted above, there is no current literature on outcome research relating to Living Life to the Full, although Dr Williams informs us that outcome data will shortly be published.

Griffiths et al (2004) conducted a randomized trial of 525 individuals with elevated scores on a depression scale, who were allocated to either a depression information website or MoodGym or a control condition. Both websites had an effect on reducing personal stigma and MoodGym was associated with an increase in perceived stigma relative to the control.

In the second study, Christensen et al (2004 (a)) demonstrated that both MoodGym and the depression information site were effective in reducing scores on the depression scale, although there was no difference between the two conditions. In addition, MoodGym produced positive changes in dysfunctional thinking and increased knowledge of cognitive behaviour therapy.

The results of this research are in accord with a study carried out by Clarke et al (2002), which demonstrated a modest reduction in depression in a population with low levels of depression, but no effect on other website users. However, recent research carried out on both programmes, has shown much more encouraging results. Christensen et al (2006 (a) and 2006, in press) demonstrated that people who had accessed all modules of the MoodGym programme, demonstrated a clear reduction in symptoms of depression. Clarke et al (2005) showed that the website was more effective in reducing levels of depression in people who received either postcards or a telephone reminder to continue with the programme. A more pronounced effect was detected among people who were more severely depressed at baseline.

The latest outcome papers (Christensen et al, 2006; Clarke et al, 2005) provide very helpful information on effect sizes. In the study by Christensen et al, effect sizes for successful interventions were approximately 0.40 and in the Clarke et al study, the effect

size was 0.27 for reduction in depression, but for those more severely depressed at base line, the effect size was 0.53. Christensen et al (2006) point out that, while the effect size from their study is less than the effect size of CBT from the major meta analyses which ranged from 0.82 to 1.0, effect sizes from the meta analyses are likely to be inflated - some are estimated on outcomes for completers, rather than on intention to treat analyses.

Christensen et al (2004 (b)) compared visitors to the website with the participants enrolled on the randomized trial and showed that there were no differences in terms of age, gender, or initial level of depression. It is therefore likely that the populations studied in the above trials are very similar to the populations who access these websites.

The researchers at the Australian National University have systematically researched other areas. For example, Christensen et al (2006 (b)) demonstrated that use of the MoodGym website leads to increased help seeking for more traditional cognitive behaviour therapy and, adjusting the website so that there is compulsory completion of core sections before going on to other parts of the website, seems to lead to an increased level of compliance with assessment tasks. Of quite considerable encouragement was a further study, carried out by Kearney et al (2006), which examined a group of 15 to 16 year old young males with a vulnerability to depression. This demonstrated that the use of MoodGym led to a reduction in depressive symptoms and positive changes in attributional style, self esteem and belief about depression. This apparent change in vulnerability for an important population demonstrates considerable potential.

Christensen et al's latest paper (2006 in press) provides a conclusion which is worth stating in full as it summarises the potential benefits of free to access programmes. This states:

“Mental health problems are a leading cause of health related economic burdens in the world today and the major cause of productivity loss. According to the World Health Organization, 2005, over 450 million people world wide are affected by mental neurological or behavioural problems, at any one time, and as many as 50% of individuals do not get any professional help for these problems. Unsupported, open access website interventions are capable of bringing about improvement in depression symptoms on a mass scale. This study suggests that even allowing for attrition and modest effect sizes, short website interventions have to the potential to exert significant effects at a population level. The investigation of internet sites as ‘entry points’ into more formal care and the use of on-line tracking or monitoring of progress on internet sites warrant further research.”

In summary therefore, two free to access websites for cognitive behavioural therapy have been subject to reasonable quality outcome research. While both MoodGym and Feel Better have been subject to randomized controlled trials, there appears to be more available information on MoodGym; the programme has been subject to continuous research funding since it was launched in 2001. At the present time, the limited outcome data shows promise, suggesting that benefits from using the website are increased by a system for reminding or encouraging site users. There is evidence that the programme may be applied to other age groups and may act to increase help seeking.

Discussion

The availability of evidence based treatment in the NHS is, of course, the subject of considerable debate and, of course, various proposals in the so-called Layard Initiative (Centre for Economic Performance, 2006).

As a corollary of this, the strategy of providing “stepped care” is often put forward to deal with some of the shortcomings in service delivery (Gournay, 2006). It therefore seems obvious that, for little cost, the three available free to access programmes could be suggested for patients involved in all of the steps in a “Stepped Care” model. Indeed, there is some anecdotal evidence that increasing numbers of practitioners of CBT are suggesting that their patients use sites such as MoodGym as an adjunct to professional specialist intervention.

There is a clear need for further research on free to access programmes. The only model we have of such research supported by public funding is that of the group led by Professor Helen Christensen at the Australian National University. It is noteworthy that the National Health and Medical Research Council of Australia has provided continuous support for research on MoodGym. It is clear from the Australian experience that research funding support needs to be programmatic, because of the ongoing evolution of free to access programmes. It needs to be pointed out that the programme developed in Scotland, Living Life to the Full, has, by comparison, very sparse research funding.

There are obvious lessons to be learned from the research conducted on Living Well and MoodGym. It is clear that there is a need to find ways to enhance frequency and quantity of use of such programmes and to perhaps consider the development of

programmes that can be used for those with lower reading ages than 11 years and those with the common accompaniments of mental health problems, such as problems with attention, memory and concentration. It also seems clear that we also need to consider the use of computer generated reminders for people to complete assessment material. While one of the benefits of the programme is that it can be accessed anonymously, we also need to consider the issue of on-line monitoring and how people with, for example, severe states of depression and suicidality, may be referred to sources of professional help.

Of the three programmes considered in this review, one (Living life to the Full) can arguably be regarded as a programme that targets not only depression, but other issues concerning skills in daily living, whilst the other two programmes mainly target the symptoms of depression. There is obviously a need for the development of free to access packages for other conditions, such as phobic anxiety states, panic disorder, eating disorders, obsessive compulsive disorder and post traumatic stress disorder.

This review has not covered programmes which incur any cost. It does however appear that there is a need for the NHS to ensure that some monitoring of these programmes is undertaken, as it may be that some of them may merit use. Based upon the examples of the cost to access sites mentioned above, they may be relatively inexpensive and many people may be willing to pay a small cost in respect of access. Alternatively, as with the Overcoming Bulimia online programme, it may well be that some services will be willing to pay a relatively small licence cost – in this case £500 – for a programme that may be accessed by up to 50 users.

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