THE INTERNET AND ITS RELEVANCE TO COGNITIVE BEHAVIOURAL PSYCHOTHERAPISTS

Susan Riley

Grovelands Priory Hospital, London, U.K.

David Veale

Royal Free Hospital School of Medicine, London, U.K.

Abstract. The potential uses of the Internet to behavioural and cognitive psychotherapists and researchers are manifold. This article summarizes what the Internet is, how to connect to it, searching the Web, on-line publishing, discussion forums, chat-rooms, literature searching, transfer of documents and creating a web-site. It considers the potential of Internet technology in therapy and enhancing patient/therapist contact. A web page containing links to many of the sites referred to in this article as well as additional links and resources is accessible through the BABCP website (www.babcp.org.uk).

Keywords: The Internet, behavioural and cognitive therapy, World Wide Web, Cybertherapists, virtual reality, E-journals.

Introduction

What is the Internet?

The Internet is a large computer network, which consists of a set of computers interconnected by a mass of global communications channels. In 1997, it was estimated that there were approximately 123 million users of the Internet worldwide (Anamorph, 1997). The Internet has loosely been defined as a community or "global village" which provides "intellectual, psychological and social support for its inhabitants" (Letterie, Morgenstern, & Johnson, 1994). Like any community, the Internet also has its own set of social rules or customs referred to as "netiquette", which govern acceptable behaviour on the net. The term "Internet" is often used interchangeably with "World Wide Web" (WWW). The World Wide Web is the medium through which you can view other sources of information using a browser.

Getting started

The easiest and cheapest way to obtain access to the Internet is through an academic institution, for which you should contact your computer department. If this option is unavailable, then to gain a personal connection to the Internet, there are five main prerequisites: a computer, a modem, a telephone line, subscription to an Internet Service Provider (or ISP), and the relevant software. It is recommended that the minimum modem speed should be 33,600 BPS – the faster the modem the quicker the transfer of information and the more efficient it will be. Software to connect to an ISP is included as part of Windows '95, MAC OS and Linux. Software for e-mail and Web browsers is usually provided free of charge from an ISP or is usually obtained from the CD-ROMs supplied with most Internet magazines. There are now many ISP companies offering dial-up access to the Internet such as Demon, BTInternet or America On-line (AOL). They charge a monthly subscription fee of £6–£17 in the U.K. Services and prices on offer vary widely and you should bear in mind the cost of the initial connection fee, the monthly charge and the minimum subscription period. You should also find out about free software, guidance on installation, whether access is limited or unlimited, user support and the amount of web space available for hosting a website. In this regard, it is useful to consult a popular magazine such as *Internet*, which provides up-to-date information about the best services available. In addition to the possibility of opening a private account with an ISP, it is also possible to access the Internet through public libraries and cybercafes.

Navigating the web

Once on-line, you have access to a seemingly daunting array of information on every conceivable area of interest. Navigating the web is made easy by user-friendly browsers such as Netscape and Internet Explorer. Deciding which browser to use is very much a personal preference as there is not a lot of difference between them. These software packages are available free of charge either as freeware, which can be downloaded, direct from the Internet or supplied as part of the ISP start-up pack. The interface of these browsers is much like any other Windows environment, with a menu bar and a series of clickable buttons that enable you to navigate backwards and forwards through web sites and pages. Web pages are constructed using Hypertext Markup Language (or HTML) and contain a series of links or anchors, which make navigation through the Internet possible.

Searching the web

The quickest and most useful means of performing an Internet search is to visit one of the web sites offering a "search engine" facility. Popular and efficient ones include Lycos (www.lycos.co.uk), which currently holds information for about 5 million pages. AltaVista (www.altavista.com), Excite (www.excite.com) and Yahoo (www.yahoo.co.uk) are among other well-known ones. Once you have arrived at any search engine site you simply type in the word or string of words you wish to find information about and click on the "search" button and the search engine returns with the relevant

hypertext links in a matter of seconds. Search engines tend to churn up irrelevant and unwanted information and this is difficult to prevent at present. Tips for searching more effectively can be found at the search engine site. A Lycos search on ''behavioural and cognitive psychotherapy'' discovered 142 relevant pages. Once you have found an interesting site, web browsers allow you to retain the address or URL (Uniform Resource Locator) for future reference.

The Internet for cognitive behavioural psychotherapists

On-line publishing

Pallen (1995) has stated that the Internet may eventually become the preferred medium for the publication of research in medicine and there is no reason why this prediction may not extend to research in behavioural and cognitive psychotherapy. At present it is possible to contact a publisher, submit an article and subscribe to a journal electronically via the Internet in only a minority of electronic journals. Online publishing has several distinct advantages over print journals. At present, the Internet facilitates access and searches to many journals without payment. In the future, it may be possible for non-subscribers to purchase individual papers. Where a subscription to the journal is required, a password may be issued.

The speed of electronic publishing has a distinct advantage over traditional print media and the cost of publishing scientific articles may become cheaper. Accepted articles could go online immediately. Similarly, corrections could be rectified and the response to an article in the form of peer reviews, feedback and critiques could be transmitted and published on line. The breadth of information made available over the Internet in connection with the article could be considerable. Due to the space limitations of traditional print journals it is not always possible to include additional information such as statistical data, questionnaires, therapy manuals and diagnostic schedules. Over the Internet it would be possible to access such additional information and references via a hypertext link and to download such files as required.

The proliferation of electronic journals has some potential disadvantages. The quality and accuracy of information made available on the Internet can be a concern. It seems likely that existing reputable journals will be increasingly published on-line and eventually no longer available in a printed format. There may be an increase in poor peer-reviewed articles so that readers may experience difficulty in assessing the credibility of some information put on the Web. A further disadvantage might be that published articles can be altered after citation. Academic communities may take longer to recognize an electronic journal, which is published only on the Internet. Such problems may eventually make it necessary for an independent committee to review the quality of E-journals.

Discussion forums

There are currently two main types of discussion forum on the Internet: newsgroups and mailing lists. Neither takes place in real-time but by posting messages to a bulletin board or a mailing list. The most common type of forum for cognitive behaviour

therapists is mailing lists. This differs from newsgroups in that they use e-mail and are often closed or membership-based discussion groups. A mailing list works by having a centralized computer, which stores all the e-mail addresses of its members. Anyone in the group can send an e-mail message to a single address and everyone on the list will receive the message via the centralized computer. The BABCP hosts one such mailing list for discussion of issues related to behavioural and cognitive therapy. To subscribe, a member should send an e-mail to list@babcp.org.uk with their real name so that the administrator may check your membership details and add you to the list. The list currently functions as a general forum although, in future, new lists may become more specialized (for example, on behavioural and cognitive therapy for PTSD). Members of the International Association of Cognitive Psychotherapists host a similar list for its members. Subscriptions to mailing lists for support groups that are open to the general public tend to overwhelm one's e-mail! In such cases, it is easier to subscribe to a newsgroup, which is separate from one's e-mail, and provide an input in answering some of the questions raised by sufferers.

Newsgroups (or ''Usenet'') function as an electronic bulletin board which users may read and respond to and engage in lively debate and exchange information and ideas. Access is open to all. At Behaviour On-line (www.behavior.net/) there is a list of discussion forums, which cover topics ranging from CBT, OCD, PTSD and anxiety through to CBT with children. There are currently over 15,000 newsgroups and new ones are constantly being created. It is even possible to start a newsgroup of one's own. Search facilities are available at DejaNews (www.dejanews.com/) which enable people to search the current range of newsgroups available for key words. Newsgroups may also function as a valuable support network for sufferers of mental disorders – for example, alt.support.ocd (for OCD sufferers) or alt.support.anxiety-panic (for people who experience panic attacks).

Medical and psychology-related resources

The Internet functions as a gigantic on-line encyclopaedia offering access to every conceivable interest. Information about academic institutions offering particular training programmes, courses, academic and research interests have set up their own web sites. The user is able to browse, mail enquiries to, request a catalogue or even enrol electronically. Some courses and electronic seminars may even be offered on-line. There is already a vast array of relevant information available within psychology and medicine and it is likely that the Internet will make increasing contributions as a resource for teaching and continuing education. Mental Health Net (www.cmch.com/help/welcome.htm) currently has links to discussion forums, on-line journals, mailing lists, training institutions and psychology-related sites.

There are many on-line businesses seeking to advertise and promote their particular services or products on the Web: for example, online bookshops from which the user is able to browse a database and place an order electronically simply by filling out a form on a web page. The AnyPsych bookshop (www.behavior.net/AnyPsych/) offers to ''obtain virtually any book written for mental health and applied behavioural science professionals''. There have been concerns raised with regard to the security of credit

card transactions over the Internet. In order to set up a secure transaction, an encryption key is required to encode the data in a format that is unrecognizable and many large banks now offer automatic verification of credit cards and direct debits for a fee. Although there are concerns about security, Internet transactions or "e-commerce" is no less safe than giving credit card details over the telephone or in person to a salesperson.

Real-time discussions

In addition to the discussion forums mentioned earlier, there are real-time means of communicating over the Internet. There are several forums that enable talk to take place. Internet Relay Chat (or IRC) is software for popular online discussion forums. IRC has a variety of channels or topics in which individuals are able to participate, some of which may be private, others public. The BABCP is planning to host such chat rooms on its Web site and one day will probably host a virtual conference. Conference goers will be relieved to hear that virtual conferences are unlikely ever to replace "real" conferences but will be an additional medium for communication.

On a more personal level, the Internet allows real-time discussions to take place by performing a "talk request". This can usually be done through a programme called "Telnet" by typing in "talk" and the Telnet address of the person you are trying to contact. This may be a useful way of enhancing patient/therapist contact or contact between group members, peers or research collaborators. In order to set up a "talk request", the person you wish to contact must be logged on and accepting calls. A message will flash on the receiver's screen and if he or she accepts the request, the two accounts will be linked so that a conversation can take place. The computer screen is usually split in two and each participant types in their conversation on the respective half of their screen. The interaction is immediate or in "real-time" and can occur at the same pace as a verbal conversation. In future, this will occur like a video or teleconference on the telephone but with the added advantage of sharing documents on screen. Talking on the Internet will provide an easy and cost effective way to communicate, particularly across vast distances.

Literature searching

It is now possible to conduct literature searches easily on Medline and the Social Sciences research databases over the Internet through an academic institution. There is limited free personal access to Medline by various sponsors such as the National Library of Medicine in the U.S.A. (www.nlm.nih.gov:80/databases/freemedl.html). Members of the British Medical Association may gain full personal access to Medline and EMBASE after registration (www.bma.org). In the future, there is likely to be an increasing number of databases such as PsychLIT and ClinPsych accessible for personal users on the Internet, either provided by a sponsor or for a subscription. Such access will also help patients and user groups who will become more knowledgeable about the best practice and evidence based medicine.

Information transfer

The Internet provides a gateway for transferring large amounts of information cheaply, quickly and efficiently either via e-mail or FTP (file transfer protocol) which enables the transfer of large files and documents. The electronic transfer of information holds several advantages over the more conventional methods of post and fax. First, electronic communication is faster than traditional post or ''snailmail'', with documents reaching their destination in minutes. It may be of particular use if two researchers are involved in co-authoring a paper as e-mail permits them to send off a draft and receive an amended version the same day. Second, once the relevant hardware and software and connections are in place, sending e-mail and transferring data files across the Internet is cheap, costing only the price of a local phone call. Third, on a more practical note, sending data electronically requires less physical effort than sending a letter by conventional post. Furthermore, it is an efficient and cost effective means of sending out information to a large group of people.

Job opportunities

Job opportunities may be advertised on-line and it is possible to visit sites and scan their databases for specific job openings. At the mental health job link site, a U.S. site (www.mhnet.org/joblink/), it is possible to post a resume and curriculum vitae free of charge and browse a database of openings and employers. The Internet may even be used by employers keen to headhunt suitably qualified staff and there are now databases of C.V.s to which employers can gain access for a fee. The BABCP may host a similar site for its members in the future.

Creating a web site

Finally, it may be worth considering the personal and professional benefits to be gained from hosting a web-site. The basics of the scripting language HTML or Hypertext Markup Language, are relatively straightforward and easy to learn. Several good books are available and there are web sites designed to teach you the basics of HTML. HTML can be written in any text-editing programme such as Notepad or Word. It is also possible to purchase or download HTML authoring programmes such as BBEdit or Webedit from the Internet. More sophisticated tools such as Microsoft FrontPage, Adobe Pagemill and Claris are now available and these are designed to do much of the work for you. Netscape Composer is another tool that comes free with Netscape Communicator. Creating a home page or a web site may be a useful means of advertising one's specialist skills, services and interests. Therapists and clinics offering specialist forms of treatment already advertise themselves on-line. Academics and researchers conducting a particular research project can use the Internet as a recruitment medium. It seems feasible that questionnaires may be included on web sites, which subjects can complete and submit confidentially via the Internet. Confidentiality may be a problem but it is possible to employ encryption devices to combat this.

The future

The preceding sections have provided a broad overview of what is already available on the Internet for behavioural and cognitive psychotherapists. The following section aims to consider the shape of things to come. As technology develops, the Internet is likely to make even greater contributions in terms of therapy and enhancing patient contact.

Enhancing patient contact

For the clinical practitioner, the web may be used as a valuable tool to enhance patient/therapist contact or with their general practitioner. For example, patients may complete a questionnaire or return homework assignments prior to an appointment, on their own computer. The Internet is a quick and cost effective means of allowing patients to submit such details to their therapist prior to their initial assessment appointment or as part of continuing therapy. The data may then be downloaded directly into a patient's notes held on computer. The scores on a questionnaire may be computed and homework analysed. Issues of confidentiality are rightly raised but need to be kept in proportion to the level of confidentiality in current practice.

Interactive computer therapy

Dow, Kearns and Thornton (1996) have noted that behavioural researchers have been at the forefront of manual-driven self-help treatments. Computerized therapy is being developed for a broad range of clinical problems (e.g. Newman, Kenardy, Herman, & Taylor, 1997; Dolezal-Wood, Belar, & Snibbe, 1998) and the next step will be to use such programs on the Internet. Due to the level of interactivity and feedback that such programs can offer to individual clients, it is suggested that such programs will overcome many of the disadvantages raised by Rosen (1987) in his review of traditional bibliotherapy and self-help books. Newer software will assess levels of compliance, provide feedback and adjust the treatment programme in accordance with the patient's progress and needs. It should be possible to deliver such programmes over the Internet or have a minimum contact with a therapist.

Virtual reality

Advancements in computer graphics and related technologies have made the creation of near virtual worlds and interactive environments possible. Exposure to feared objects and situations may already be simulated and administered via a computer screen or virtual reality headset and used to supplement and enhance therapy. For example, Rothbaum et al. (1995) have described a case report on the efficacy of computer-generated virtual reality for reducing the fear of heights. Dow et al. (1996) recommend that precautions to ensure appropriate rates of graded exposure may be important and recommend that some therapist assistance may be desirable. As programs become more sophisticated, they are likely to adjust themselves, based on feedback from the patient's performance and delivered over the Internet to the patient's home.

Therapy over the Internet

A decade ago, the possibility of conducting therapy over the Internet seemed remote outside a science fiction novel. The distinctions between present and future are already becoming blurred. In the U.K., the Samaritans have recently gone on-line, although it is only possible at present to e-mail them and wait for a reply. In the U.S.A., it is now possible to have a ''psychological consultation'' over the Internet using electronic mail.

Clients are able to engage in real-time ''cybertherapy'' at ''the concerned counselling site'' (www.concernedcounselling.com). It claims to have over 150 counsellors working on-line and by telephone. Visitors to their site may arrange a pre-agreed time to meet with a counsellor in an on-line chatroom. One of the biggest problems at present with on-line therapy is the current restriction imposed by text-based interactions. Subtle nuances may be lost in the absence of both verbal and non-verbal cues, which may have an impact upon the effectiveness of therapy for some individuals. There are also concerns about the quality of care received. How well qualified are these ''cybertherapists''? Are they accredited? What is the effectiveness of the counselling in this environment? In a statement issued by the Ethics Committee of the American Psychological Association (1997), the Internet is referred to as a ''more limited medium for the delivery of therapy services compared to a telephone or teleconferencing services''. They recommend that ''psychologists considering such services must review the characteristics and consider the relevant ethical standards and other requirements such as licensure board rules''. It seems likely, however, that as technology develops and higher bandwidth and speed connections are established, real-time audio and video links via the Internet will be feasible. Should this occur, consulting room settings more like the ones we are used to may be possible, although the absence of face-to-face contact is likely to remain a problem. Experimental attempts at developing such connections in the form of ''Internet-2'' are already in progress within academic institutions and basic videoconferencing is now available for home users. Despite present limitations, such therapy over the Internet may still be a useful substitute, particularly where visits to a clinic would be impossible or difficult due to location or health constraints. We are waiting for the first real-time group therapy in which patients will be dotted around the world and will interact with one another and the therapist on-line. Therapists too will soon have virtual conferences – not quite as fun as real ones – but still an additional means of continuing professional development and exchanging ideas.

Conclusion

We hope that this paper has served to demonstrate the current uses of the Internet within cognitive and behavioural psychotherapy. If you are not already on-line it may have convinced you of the benefits to be obtained from opening an account and setting up a website. Whatever you decide about the potential uses of the Internet, it is apparent that it could constitute a useful addition to the practise and research of behavioural and cognitive psychotherapy. It seems likely that as more resources go online and as Internet technology develops, its relevance and usefulness will increase accordingly.

References

ANAMORPH (1997). *Internet statistics*. Available at www.anamorph.com/docs/cgi/all.cgi

AMERICAN PSYCHOLOGICAL ASSOCIATION (1997). Statement on services by telephone, teleconferencing and Internet by the Ethics Committee of the American Psychological Association. Available at www.apa.org/ethics/stmnt01.html

DOW, M. G., KEARNS, W., & THORNTON, D. H. (1996). The Internet II: Future effects on cognitive behavioural practice. *Cognitive and Behavioural Practice*, *3*, 137–157.

DOLEZAL-WOOD, S., BELAR, C., & SNIBBE, J. (1988). A comparison of computer-assisted psychotherapy and cognitive-behavioural therapy in groups. *Journal of Clinical Psychology in Medical Settings*, *5*, 103–115.

LETTERIE, G. S., MORGENSTERN, L. L., & JOHNSON, L. (1994). The role of an electronic mail system in the educational strategies of a residency in obstetrics and gynecology. *Obstetrics & Gynaecology, 84*, 137–139.

NEWMAN, M. G., KENARDY, J., HERMAN, S., & TAYLOR, C. (1997). Comparison of palm-top computer-assisted brief cognitive-behavioural treatment to cognitive-behavioural treatment for panic disorder. *Journal of Consulting and Clinical Psychology*, *65*, 178–183.

PALLEN, M. (1995). Introducing the Internet. *British Medical Journal*, *311*, 1442–1444.

ROSEN, G. M. (1987). Self-help treatment books and the commercialization of psychotherapy. *American Psychologist*, *42*, 46–51.

ROTHBAUM, B. O., HODGES, L. F., KOOPER, R., OPDYKE, D., WILLIFORD, J. S., & NORTH, M. (1995). Virtual reality graded exposure in the treatment of acrophobia: A case report. *Behavior Therapy*, *26*, 547–554.

Glossary of terms

Browser: A piece of software that allows you to access pages on the Internet. The most frequently used browsers are Netscape Communicator and Internet Explorer. These are both available as freeware and can be downloaded from the respective websites: www.netscape.com and www.microsoft.com.

Bulletin boards: Also referred to as Usenet groups or Newsgroups. It is a medium where people can post articles/views to different interest groups. It is best to spend time watching before contributing.

Download: This term is used for collecting information, files and software from the Internet which are saved to a location specified by the user, usually the hard drive.

Electronic mail: A method of sending messages to other people across the Internet. There are a variety of specialist programs which support e-mail (for example, Eudora). Web browsers also enable the user to send and receive e-mail.

E-mail addresses: The full address to which people can send mail. For example, if your name is Aaron Beck, your e-mail address would be a.beck@institution.edu. Assuming it is an academic institution, it is suffixed with "edu" for the U.S. and "ac" for the U.K., charitable organizations "org", companies "com" for the U.S. and "co" for the U.K.

Freeware: Programs (software) that are available free of charge.

FTP: File Transfer Protocol. A language used by computers to talk to each other. FTP is useful for downloading files from the Internet. From the user's point of view, this is often an automatic

process and software or files available on the Internet often come with a clickable button that intitiates FTP automatically.

HTML: Abbreviation for Hypertext Mark-Up Language. This is the language used on the World Wide Web (WWW). It is a large computer network, consisting of a set of computers interconnected by a mass of global communications channels.

Internet: A large computer network consisting of computers interconnected by a mass of global communications channels.

IRC: Internet Relay Channel. A place where people can "chat" over the Internet in real time.

Listserv: A program that creates and distributes a mailing list, which allows individuals to receive a series of e-mail messages concerning a specific topic.

Mailing lists: These are a way of engaging in debate/discussion around a particular topic. People interested in a particular area (OCD) write their views on a particular topic, initiate debate and reply to another person's views. There are many mailing lists at different sites. The most comprehensive site is at: mailbase@mailbase.ac.uk. To search for psychology-related ones, send an e-mail to the above address with nothing written in "subject" and in the text write the following "find lists psychology". Mailing lists can be open (where anyone can write in) or closed (where only members have access).

Modem: This stands for Modulator/Demodulator. It is a piece of hardware that enables two computers to communicate or transfer files over a telephone line. It is absolutely essential for sending e-mails or browsing the Internet.

Shareware: Programs (software) that are available on a trial period and once this is expired the user has to pay a small fee to continue using them.

TCP/IP (*Transmission Control Protocol/Internet Protocol*)*:* A set of rules that networks use to understand each other on the Internet.

Telnet: A method of connecting to other sites.

URL: Uniform Resource Locator. The unique identifier/address for world wide web pages.

WWW: Abbreviation for World Wide Web. This is the medium through which you can view other sources of information directly using a browser.