From Psychotherapy to e-Therapy: The Integration of Traditional Techniques and New Communication Tools in Clinical Settings

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ABSTRACT

Technology is starting to influence psychological fields. In particular, computer-mediated communication (CMC) is providing new tools that can be fruitfully applied in psychotherapy. These new technologies do not substitute for traditional techniques and approaches but they could be used as integration in the clinical process, enhancing or making easier particular steps of it. This paper focuses on the concept of e-therapy as a new modality of helping people resolve life and relationship issues. It utilizes the power and convenience of the Internet to allow synchronous and asynchronous communication between patient and therapist. It is important to underline that e-therapy is not an alternative treatment, but a resource that can be added to traditional psychotherapy. The paper also discusses how different forms of CMC can be fruitfully applied in psychology and psychotherapy, by evaluating the effectiveness of them in the clinical practice. To enhance the diffusion of e-therapy, further research is needed to evaluate all the pros and cons.

INTRODUCTION

Psychotherapy is traditionally based on face-to-face interactions or other settings that involve verbal and non-verbal language without any technological mediation. However, emerging technologies are modifying these traditional settings. As indicated by Norcross et al. in a recent study about the future of psychotherapy, “as we transition from the industrial era to an information era, it is imperative that we remain knowledgeable of how changes will impact psychotherapy, psychologists and our patients” and “a growing percentage of psychotherapy will be offered by telephone, videophone or e-mail.”

As noted by Jerome and Zailor: “emerging technology will perpetually alter the health care environment, continuously changing the tools and options that are available to therapists. It is thus important to study the impact of these changes as they occur, and it is imperative that new technological competencies be developed as clinicians integrate these technologies into their research and practice.” Nickelson defined these scenarios with the word “telehealth”: the use of telecommunications and information technology “to provide access to health assessment, diagnosis, intervention, consultation, supervision, education and information, across distance.”

It is important to underline that the possible introduction of new technologies does not represent a new theoretical approach in the field of psychotherapy: the traditional techniques (such as the “cognitive reframing” in the cognitive and behavioral approach) and the key features of an effective psychotherapy (such as a good relationship between therapist and patient) are not put in discussion in high-tech scenarios. In this frame, new tools...
can be used for enhancing the traditional treatments. Possible applications are extended support in particular steps of the clinical process (e.g., follow-up) or as an augmentation of face-to-face communication during the central and final parts of the psychotherapy. The focus is not upon the technology but upon the process of the psychotherapy, of diagnosis, or of other psychological activities that can be enhanced with the use of technological media and tools.

As noted by Grohol, e-therapy “is a new modality of helping people resolve life and relationship issues. It uses the power and convenience of the Internet to allow simultaneous (synchronous) and time-delayed (asynchronous) communication between an individual and a professional.” This author noted that “it would be inappropriate to compare it to traditional face-to-face psychotherapy, assessment or traditional services,” because e-therapy is only a resource that can be added to traditional treatments.

Another key issue to consider in the possible applications of e-therapy is the provision of appropriate health assistance in remote areas where specialized staff and facilities are not widespread: in these situations, the Internet could be the only solution to allow daily health care. The AKAMAI Telemedicine Program, in the case of Hawaii, and Alaska Telemedicine Program, in the case of Alaska, are two examples.

POSSIBLE APPLICATIONS OF E-THERAPY

The Internet—a global computer network that connects ever-growing numbers of local networks and computers—is now one of the predominant communicational tools. A number of psychological resources are already available for professionals and lay users. There are two main areas in psychotherapy where the Internet could provide enhancing solutions for clinical applications: individual therapy and self-help therapy.

Individual telepsychotherapy

Individual telepsychotherapy could be indicated in many situations for remote psychological consultations. Although efficacy of the use of remote consultation in psychotherapy is not yet fully explored, technological advances have allowed the publication of some pioneering work with good and promising results. Klein and Richards, for example, investigated the effectiveness of an Internet-based intervention for people with panic disorder: the treatment condition was associated with significant reductions in all variables, except anxiety sensitivity and depressive affect.

Botella et al. developed a telepsychology system for the treatment of public speaking fear. The system, composed of three main parts, is a structured assessment protocol that gives the patient a diagnosis of his/her problem, a structured protocol for the treatment of the pathology previously discovered, and an outcome protocol that assesses treatment effectiveness at every intermediate step.

One of the possible advantage of using e-mail as an adjunct to therapy is the patient’s involvement in treatment. Murdoch and Connor-Greene reported two interesting clinical cases where therapeutic alliance and impact improved with the use of e-mail homework reporting. The authors attributed this improvement to the fact that some patients have fewer problems when they talk about personal issues using e-mail than when they are in a face-to-face setting.

Also, in the outpatient treatment of anorexia nervosa, good results have been obtained using e-mail as a therapeutic adjunct. Results of this study showed a clinical improvement for all patients included in the experimental group. Furthermore, patients accepted the use of e-mail as a therapeutic adjunct, and they considered it fruitful.

Bouchard and colleagues used videoconference to enhance a cognitive-behaviour protocol for the treatment of patients suffering from panic disorders with agoraphobia. According to the authors, telepsychotherapy demonstrated statistically and clinically significant improvements of target symptoms (frequency of panic attacks, panic apprehension, severity of panic disorder, perceived self-efficacy) and measures of global functioning (trait anxiety, general improvement). Furthermore the authors noted that a good therapeutic alliance was built also using videoconference (and not real face-to-face interactions) after the first telepsychotherapy session.

Self-help therapy

Self-help information is characterized by written, visual, audio, recorded, etc. material whose content is a treatment program (or part of it) that may be self-administered by patients with or without the therapist’s guidance. The utility of self-help procedures has been acknowledged for a wide variety of psychological problems, such as phobias, obesity, sexual dysfunctions, and tobacco addiction. Scogin et al. performed a meta-analysis review of
40 well-designed outcome studies of self-help treatments. The overall conclusions were that self-help is clearly more effective than no treatment at all and just as effective in most cases as treatment administered by a therapist.

In order to avoid indiscriminate use of self-help material that could strengthen (and not reduce) the psychological problems, more research is needed. Botella noted that this risk of worsening the trouble instead of alleviating it depends on whether the information is offered without following a gradual therapeutic process.

Online self-help groups

On-line self-help groups are composed by bulletin boards, chat rooms, news, and discussion groups operating within health-related web pages, list servers (groups in which each individual message is copied and e-mailed to all subscribers), and other electronic forum focused on sharing and solving psychological disturbances. Some are simply unstructured discussion groups. Others are led by an individual (usually a non-professional) who shares the problem that the group addresses.

The principle at the core of these groups is the sharing of experiences, strengths and hopes between members in order to solve their common problem. These groups offer both an alternative and adjunct to the traditional psychotherapy approach. Madara noted that possible advantages of a self-help group are social support, practical information, shared experiences, positive role models, helper therapy.

The effectiveness of online self-help groups is generally high: different researches proved their efficacy as support tools in the treatment of eating disorders, depression, and headache. Humphreys and colleagues noted that ethical problems have to be taken into account for psychologists in Internet-based groups:

- **Location:** It is very difficult for a psychologist to competently execute ethical responsibilities where on-line group members usually come from a broad geographical area, overall in situations of emergency (e.g., a client residing in another state becomes suicidal).
- **Identity:** Without reliable systems of encryption, an individual with access to a client's computer (e.g., a family member) could sign into on-line group psychotherapy by using the password and the name of the actual client. Individuals cannot be easily identified over the Internet.
- **Privacy:** Information exchanged in on-line self-help groups could be typed, recorded, copied, and distributed, reducing clients' privacy.

However future technological developments (e.g., improved encryption systems) and practical adjustments (e.g., restricting on-line group psychotherapy membership to local residents who can be screened personally before therapy begins) could solve these problems.

NEW TOOLS IN e-THERAPY

As noted by Stamm, “Psychologists do not have to become technology specialists to be competent providers of telehealth services . . . However, to best know when and how to use technology to support healing . . . psychologists will need more technology proficiency, particularly with computers, than has been the norm. This is particularly true for those who will be establishing their practices in the coming decades.”

However, in 1996, a survey on a sample of 213 Californian psychologists showed that only a fraction of psychologists was making use of computers for anything other than simple word processing.

**Synchronous and asynchronous computer-mediated communication**

In the interaction between therapist and patient, synchronous and asynchronous computer-mediated communications (CMC) could be fruitfully applied. There are different possible scenarios: the client and therapist could sit at their computers at the same time interacting with each other at that moment (synchronous CMC) or when communication is not simultaneous (asynchronous CMC).

About asynchronous CMC, electronic mails (e-mails) are messages left by a sender in a receiver’s electronic letterbox, which the receiver must open before he can read the message; it can be used to facilitate electronic communications between patients and care providers. According to Yager, there are several reasons for which e-mail can be considered as a positive enhancing tool in therapy. Firstly, e-mail increases the frequency and amount of time contact with clinicians and therapeutic processes. Secondly, the emotional value of e-mail is relevant because patients can initiate contacts when they feel most inspired and need most to be in contact with their clinician. A third factor is represented by the observation that quasi-daily e-mail reports require patients to be constantly aware
of their behaviours and of being in therapy. Finally, e-mail can reduce the emotional burden of patients by encouraging and enabling them to say whatever they care to say. Emotions can be simulated, to some extent, by using symbolic or graphics expressions (i.e., the emoticons). As underlined by Yager, there are also potentially negative effects, such as lack of privacy in receiving e-mail messages, clinician failure to respond in a timely and adequate fashion, difficulty to recognize urgent and troubled communications meritising phone and/or face-to-face contact.

In the field of asynchronous CMC, an important role is played by newsgroups, electronic notice board on which users can post messages referring to a specific topic or area of interest. Users can read the messages by opening the notice board, and send their own messages in turn. As with e-mail, there is no real-time link between the computers of the interacting subjects.

Unlike asynchronous CMC, the most important feature of synchronous CMC is that it does provide a real-time link between users’ computers. Although the most frequently cited example is the videoconference, the most widespread system is internet relay chat (IRC).

IRC is a form of synchronous CMC which enables a group of users (a chat) to exchange written messages and interact with each other in two different ways, by sending a message either to a specified user, or to all members of the chat. IRC allows more frequent patient-therapist communications, facilitating the tracking of a patient’s progress and eliminating the need for an office visit. IRC has been successfully used by self-help organizations. The principle of the self-help group is that members are allowed to share experiences, strengths and hopes in order to solve their common problems. These groups offer both an alternative and adjunct to the traditional psychotherapy arena. They have in common the fact that members participate with the expectation of receiving emotional support and finding new ways to help themselves cope with their shared problems. By far the largest segment of these groups deal with substance abuse problems (i.e., Alcoholics Anonymous).

Suler has analyzed the pros and cons of synchronous and asynchronous communication in telepsychotherapy. Results of this evaluation are reported in Table 1.

Among synchronous CMC, video teleconferencing (VTC) is one of the most important tool for telehealth. VTC allows participants to conduct visually interactive electronic meetings between one or more distant locations using video cameras, monitors, and communications. VTC can represent a fruitful solution in rural areas, where mental health services are limited, and patients tend to be undertreated, receiving treatment only in emergencies. Moreover, VTC can provide opportunities for clinical consultation, assessment, diagnosis, supervision, home health care, medication management, continuing education, and administrative review.

An important issue to consider in using VTC is that patient acceptance is high, even when individuals are acutely or chronically psychotic or agitated. This result is confirmed by the study of Ghosh et al.: no differences in the therapeutic alliance were found when they compared 10 psychotherapy sessions conducted by video conference with 10 sessions conducted face to face.

Unlike conventional telephone communications, where parties are limited to only hearing each other, video teleconferencing utilizes both audio and video communications enabling participants to see and hear each other as if they were in the same room. VTC operates with a camera, a monitor and a computer processor. According to Stamm, on the market there are different types of basic VTC: dedicated VTC units, desktop computer VTC units that pass data via telephone lines or via the Internet and retrofit units that use existing televisions and telephones.

**Shared hypermedia tools**

Hypermedia can be described as “on-line setting where networks of multimedia nodes connected by links are used to present information and manage retrieval.” While a hypertext consists of textual information in the first place, hypermedia include multiple information formats (such as visual or musical) and animation elements. When hypermedia are used as communication tools, they are defined as shared hypermedia tools (SHs).

SHs integrate the communication potential offered by Internet with the richness of different multimedia contents. Different users, who are simultaneously browsing the same website, can communicate with each other and share files or web addresses. Furthermore, each user can get a constantly updated list of all the other online users who are visiting the same website. Usually, a SH allows the user to conduct group and private chats, to exchange information and files, and even to share the same web pages. On any website, SH users can see a list of other users and talk with them on group and private levels.
One of the key advantages of SHs is the consolidation of different forms of CMC (e-mail, IRC) into one fully integrated interface. Many SHs also have a search engine that can be used to find a user who meets specific requirements (i.e., age, interests). In this way, it is relatively easy for a therapist, for example, to set up a group with common interests, such as eating disorder or other mental illnesses. Some SHs have a feature called “web tour” that is very interesting for the possibility given to the therapist to provide patients who are not familiar with search/surf techniques in the Internet with relevant information tailored to their needs.29

### EVALUATION OF CMC TOOLS IN CLINICAL PRACTICE

In order to evaluate the clinical effectiveness of these telemedicine tools, many dimensions have to be taken into account. Fineberg and colleagues30 distinguished several process and outcome dimensions.
sions that might appropriately be assessed by evaluators:

- **Technical capacity**—whether a technology is safe, accurate, and reliable
- **Diagnostic accuracy**—whether a technology contributes to a correct diagnosis
- **Diagnostic impact**—whether a technology provides diagnostic information that is useful in making a diagnosis (e.g., after the telemedicine consult, is face-to-face consultation still necessary?)
- **Therapeutic impact**—whether a technology influences patient management or therapy
- **Patient outcome**—whether a technology improves patients’ health and well being

However, a more detailed point-to-point analysis is needed to evaluate the clinical effectiveness of CMC tools:

- **Technical capacity.** The technical capacity and development of CMC tools are ensured by their applications for commercial purposes and massive distribution over the Internet. They are first intended to be effective, safe, accurate and reliable communication tools. Their success depends primarily on these aspects, including human-interface and ergonomic issues. Of course, there are some differences concerning the level to which each particular CMC tools meets these requirements (i.e., not all CMC tools have a user-friendly interface).

- **Diagnostic accuracy and diagnostic impact.** Despite of the great range of communication features that characterize most of this software, they cannot remotely convey the richness of information (verbal and non verbal) provided by direct, face to face (f2f) interaction. The present and future challenge for CMC tools is to allow the remote reconstruction of the clinical setting, at least for the elements more important to ensure a functional relationship between therapists and patients.

- **Therapeutic impact.** CMC tools have the potential to fruitfully influence both patient management and therapy. This forecast is supported by the observation that simpler Internet-related technologies (i.e., e-mail or text-chat) have significantly and positively affected the outcomes of mental health sessions.\(^3^1\)

- **Patient outcome.** Up to now, the majority of programs that have applied Internet related technologies for the treatment of mental disorders have encountered positive, if not even enthusiastic, reactions by patients. There are several studies in different therapeutic areas that reported significant improvements of patient who were included in Internet-supported therapy programs.\(^3^1\) Further research is needed to demonstrate whether this technology (and related ones, like SHs) can really improve patients’ health and well being. Although there is still a lack of experimental and clinical outcomes evidencing the effectiveness of CMC tools in psychotherapy, these preliminary results are encouraging.

**CONCLUSION**

E-therapy could represent a useful integration between technological tools and traditional clinical techniques and protocols in order to improve the effectiveness and efficiency of therapeutic process. The impact of these new possibilities in psychotherapy might be very strong.

In the field of psychology, e-therapy has been adopted only by a few clinicians, and a widespread change in health-care organizations would be necessary in order to increase the use of e-therapy tools.\(^3^2\) It is necessary to consider changes in these areas: consultations and referral patterns, ways of payment, specialist support for primary healthcare, co-operation between primary and secondary healthcare, defining geographical catchment areas, and “ownership” of patients.\(^3^3\)

Although the main problem for the success of e-therapy is non-technical,\(^3^4\) actual technology—hardware, software, and transmission—is far from perfect:\(^3^5\) the main limits are insufficient image quality, low framing rate, flickering, and delays that make working in front of a video terminal unattractive and in particular very tiring. New transmission technologies, including Digital Subscriber Line (xDSL) and cable modem, promise to provide relevant increases in dependable bandwidth for a small increment of price. For the success of e-therapy applications widespread access to the Internet is also required. Many applications currently demand only moderate bandwidth and latency, meaning that standard modem access to the Internet, at 56 kbit/s may suffice.

Ensuring health-services “on-line” could also reduce gaps of quality in treatments between different demographic groups,\(^3^6\) traditionally without the same possibility to reach Health-care organizations: in fact there are considerable differences in the access to psychological services in the world.

Other important issue to discuss is related to security, legal protection, and ethical aspects.\(^3^7,3^8\) In
fact in e-therapy it is necessary to ensure a system of control and protection.\textsuperscript{39} Although e-therapy can dissolve the geographical boundaries, “in the case of law, this feature is a potential problem.”\textsuperscript{40} Possible actions in front of these issues are the ethical codes of American ACA (American Counseling Association), NBCC (National Board for Certified Counselors), and ISMHO (International Society for Mental Health Online) that try to provide different solutions: for example, e-mail encryption packages such as ZipLip or PGP (Pretty Good Privacy) or web-based e-mail systems such as Hotmail or Hotbot can ensure protection (and confidentiality) and can avoid dispersion of data. Moreover the verification of the client’s identity and the relative procedure to determine if the therapist is licensed, qualified and certified are advised by these ethical codes. Manhal-Baugus underlines that “a site that offers this information is Credential Check (www.mentalhelp.net), which is a neutral third organization that verifies the identity and credentials of on line mental health practitioners.”\textsuperscript{41} Most e-mail exchanges between patient and provider involve discussions of personal health information, which must be suitably protected from breaches of confidentiality and from manipulation.\textsuperscript{41} However the establishing of a firewall and the introduction of HPC (Health Professional Card) can represent a good solution to avoid the risk of un-authorized access to the hospital server. In general, planning all activities in order to ensure data protection is a key factor for the spread of e-therapy.\textsuperscript{42}

In conclusion, to enhance the diffusion of e-therapy, further research is needed. More evaluation is required of clinical outcomes, organizational effects, benefits to health-care providers and users, and quality assurance. To date, the empirical research is not strong enough to objectively evaluate all the benefits and limits of e-therapy.\textsuperscript{5} It is important to create groups of professionals with know-how from different areas (in particular, from psychological and technological ones) in order to share information, results, and ideas, and to create these multidisciplinary teams.

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