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Lights and Shadows of Psychotherapy through Mobile Phones with Vulnerable People

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Abstract

We are witnessing a rapidly growing type of Mobile Health. Mobile devices have allowed the control of activity levels in people, their habits and even their mobility through GPS. Vital signs, moods, sleep disorders, heart rates, or skin temperature can also be monitored. Literature specializing in psychosocial therapies addresses the usefulness of mobile phones in patients in general, with greater production from psychology and to a lesser extent from social work. We highlight the research developed in the USA and identify opportunities and limitations in terms of data privacy, access to and use of mobile phones; to reach isolated or poor populations or to facilitate access to social and health services. We conclude with possible orientations, hypotheses and goals for prospective investigation works.

Introduction

Vulnerable persons are those susceptible to abuse owing to social, economic, cultural or psychological disadvantages; these include the elderly, disabled persons, women, children, indigenous peoples, migrant workers, political refugees, sexual minorities or detainees. Mechanic y Tanner [1] believe that vulnerability stems from developmental issues, personal incapacities, disadvantaged social conditions, insufficient interpersonal networks, degraded social environments and a complex interaction among all these factors. There is a Digital Gap that excludes people who are disconnected and without access to mobile phones, and also a Knowledge Gap that excludes those who are unable to use their mobile phones for personal progress or to improve the quality of their lives [2,3].

Nowadays, according to data from the International Telecommunication Union [4] there are 96.8 subscriptions to mobile phones per 100 inhabitants, on a global scale; more mobile phones than people in developed countries (120.6 per 100 inhabitants) and almost one mobile phone per capita in developing countries (91.8 per 100 inhabitants).

We share the idea that Physical and Mental Health cannot be separated from Social Health. We agree with the definition of health proposed by the World Health Organization, which ceases to understand it as the absence of disease to define it as physical, psychological and social well-being, which underscores the social character of medicine and its interdisciplinary character [5]. We are witnessing a rapidly growing type of Mobile Health. Mobile devices have allowed the control of activity levels in people, their habits and even their mobility through GPS. Vital signs, moods, sleep disorders, heart rates, or skin temperature can also be monitored.

Online social work and psychosocial therapies face new challenges [6]. We must not forget that mobile phones can collect objective data for psychosocial evaluation and vulnerability assessment. However, mobile phones have limitations in terms of ethical codes and privacy. Salleh et al, [7-12] agree on the need to further investigate online psychotherapy and weight its benefits and drawbacks.

Our objectives in the present paper are:

- To reflect upon the advantages and limitations of mobile phones for psychosocial therapies through text messages for vulnerable people
- To introduce a discussion on the guidelines and questions that must be raised by social inclusion research projects

Method

We analysed scientific papers focusing on the study of mobile phones and text messages in psychosocial therapies. We compiled papers published between 2000 and 2015 in major academic databases, such as Scopus, Google Scholar, Science Direct, Springer Link, PubMed, Francis and Taylor and the Social Science Citation Index (SSCI).We observed that the prestigious SSCI does not

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include all the references on social work and psychology available on the Internet, which confirms the criticism raised by [13] towards its statistical algorithm.

We used keywords as descriptors on Internet search engines, in two languages: Spanish and English. The identified journals included: Addictive Behaviours, International Journal of Clinical and Health Psychology, Computers in Human Behaviour, Personal and Ubiquitous Computing, Journal of Technology in Human Services, The Lancet, J. Telemed, Telecare, Health Aff, Advance in Social Work, Clinical and Social Work Journal, International Social Work, Social Work in Health Care, Asian Journal of Psychiatry, BMC Psychiatry, British Journal of Clinical, Telemedicine Journal and e-Health, Cyber Psychology and Behaviour, Professional Psychology: Research and Practice, Social Work Today, The Journal of Contemporary Social Services, Journal of Applied Psychoanalytic Studies, Journal of Affective Disorders, Asian Social Science, Asia Pacific Education, Boletín de Psicología, Revista de Psicopatología y Psicología Clínica, Dirsi, Revista de Trabajo Social y Salud, Portularia, Arbor: Ciencia, Pensamiento y Cultura, Athenea Digital, UOC Papers, Base de DatosCrohrane de RevisionesSistemáticas, Revista Atlántida, Revista Zahonar, RevistaUniversitaria de Investigación, Mosaico, Documentos de Trabajo Social and Cuadernos de Trabajo Social. In each case we identified one paper, except for Social Workbooks, Cyber Psychology and Behaviour and Journal of Affective Disorders, where two papers were identified.

Initially we searched for titles in English or Spanish including "Mobile Telephones" "Cellular Phones" and "Psychosocial Therapy" or "Mobile Phones" and "Psychosocial Therapy"; and related words in both languages such as: vulnerable people, social inclusion, social exclusion, texting, texting therapy, mental health and online therapies. Our database query covered the title of the paper, the abstract and keywords included by publishers. Subsequently, we selected 43 of the 140 documents identified, adopting two criteria:

We selected 19 articles referring to empirical research results and 24 theoretical articles.

Generally speaking, research articles had to meet the following criteria:

- A clearly defined methodology
- Clearly specified results and
- Discussion of and reference to their limitations.

In turn, theoretical articles had to meet specific criteria:

- A systematic method of background selection
- A clearly defined time lapse and
- A critical and reflexive analysis.

To systematize the information, we developed a bibliographic database with 4 fields:

- Bibliographical review with fundamental localization data
- A quantitative field with measurable data on bibliographic quotes, number of pages, number of authors
- A descriptive field with qualitative content information and
- A synoptic field containing a synthesis of the document.

Online health intervention

Cook and Doyle and Suler [14,15] developed pioneering theoretical-empirical research on the practice of psychosocial therapy through e-mail, chat and videoconference, introducing it as a growing field that raised much interest and controversy in the U.S. Cook and Doyle [14] compared online and face-to-face therapy in a group of 16 therapists and 15 patients with social and/or depression issues, noting that online therapy was effective where a very intense relationship, with strong communication skills and high motivation, between the participant and the therapist existed; and that professional concerns revolved around legal and ethical issues, as well as the absence of non-verbal signs in online communication. Pero Suler [15,16] observed how therapists were supposed to give assistance in at least four email exchanges with the client, highlighting the synchronicity in communications and disinhibition against prejudice. In Spain, Vallejo and Jordán [17] analysed different computer-aided psychotherapy experiments in public and private health systems and concluded, like Suler [15], that they could not replace face-to-face therapies, serving as a complement only.

Morris and Aguilera Wagnert, Andrea and Maercker [18,19] review the technical advances that can improve assessment and intervention in psychology practice. From their research in the United States and Switzerland, they reflect on the potential of communication technologies to improve health care: by enabling real-time data collection, improving care and treatment, and encouraging immediate intervention. They recognize limitations in traditional intervention practices that could be addressed with technological solutions, but mention two concrete factors that hinder the effectiveness of clinical intervention: limited human resources and the slow diffusion of evidence-based treatments.

Aguilera [20] contends that mobile phones ensure geographic omnipresence; simple or standard models are attractive for mental health care and therapies because they are inexpensive and always present, allowing them to send and receive data, texts, audio and photos; more advanced phones or smart phones add the advantage of the Internet, and programmable video, location and movement applications, which provide spatial and temporal tracking data. A pioneering research developed by Aguilera and Muñoz [21] used text messages sent to mobile phones to randomly ask about the mood of patients throughout the day; this provided steady data that the therapist could use to assess and define therapy strategies; for instance, the patients were asked to reflect on positive or useless thoughts they had throughout the day or about their moods; this system also allowed them to monitor daily activities, social interactions or sleep patterns of patients. Aguilera and Muñoz [21] noted that this text messaging system via mobile phones helped patients feel safer and aware that someone was constantly concerned about their health.

Dowlinga and Richwooda [22] state that online interventions are especially used by psychologists and that there is little research, urging for the development of new experiments. Amichair-Hamburger et al. and Botella C, Bretón-López J. [23,24] are very optimistic towards the value of communication technologies for health. Amichair-Hamburger et al. [23] believe that these hold great potential to change certain aspects of the global social structure, as they ensure individual support and health assistance to millions of marginalized people. In their opinion, on a global scale, 14% of the mentally ill have no access

to psychosocial assistance or some form of care from mental health caregivers, and 75% of these live in poor countries.

Studies involving mobile phones and psychosocial therapies with groups of vulnerable individuals are scarce. In our systematic search for papers we identified the study developed by Chandra et al. [25] in India, with vulnerable women with depressive tendencies. The authors investigated the effectiveness of text messages to promote the mental health of poor women in the city of Bangalore; for a month, they worked with a group of 40 patients aged 16-18, who received daily text messages and could, make voice calls or missed calls to alert them when experiencing emotional problems. In their research they identified cultural problems involving gender relations and patriarchy; the men were excessively concerned with the source of the messages that women received and, like their mothers, insisted on data confidentiality.

Wagnert, Andrea and Maercker [19] and Amichair-Hamburger et al. [23] believe that online therapies can be a serious asset, as they promote the mental and physical well-being of those who are excluded; and are needed to work towards well-organized and socially just states. These authors state that there is a clear demand for online therapies, but we need to how many people use or could use them; detailed studies and research are therefore needed.

Mobile text messaging can break barriers

Several authors have studied experiments involving online mental health therapy via mobile messaging in the United States. Pijnenborg et al. [26] evaluated the efficacy of text messages with schizophrenic individuals and concluded that they were very useful when compensating for the effects of pharmacological interventions. However, they point out that the efficacy of text messages depended on patient perseverance. Person et al. [27] carried out an experimental research involving text messages and mobile phones with a group of 315 people with tuberculosis, immune deficiencies and syphilis, who were interviewed at the end of the text messaging therapy; they noticed a great dissemination of mobile phones amongst ethnic groups of Hispanics and African-Americans, who were very open to this type of therapies and studies, especially women, more than men; they mentioned a San Francisco-California prevention program called "sexinfo", consisting of text messaging on condom use and the danger of unprotected sex. Aguilera and Muñoz, Proudfoot et al., Kong, G. et al., Reamer, Campbell et al., Aguilera, Scheller and Leykin [21,28-32] carried out experimental studies on online mental health therapies via text messaging with different patients, suffering from depression, anxiety, alcoholism, addictions, etc., and they describe the development and the use of mobile text messaging in Cognitive-Behavioural Therapy (CBT).They all believe that text messages are used to increase the effectiveness of therapy-related tasks, improve self-awareness, and help the patient progress.

In the ground-breaking study developed by Aguilera and Muñoz [21], patients had to report individually about positive and negative thoughts, pleasant activities, positive and negative contacts and physical well-being; the group consisted of 12 people who consented in receiving text messages in their mobile phones, during and after the prescribed treatment. Participation varied but was the majority, with a 65% answer rate. Aguilera and Muñoz [21] propose text messages as a therapeutic communication tool for health care in general and targeting low-income populations in particular; they conclude that online therapies do not replace face to face therapies with the patient, but they can work as a complement.

Aguilera and Muñoz, Proudfoot et al., Kong et al., Reamer, Campbell et al., Aguilera, Schueller, and Leykin [21,28-32] based on research findings carried out in the United States, conclude that using text messages in mental health care can help maximize resources, as they are more cost-effective. They observed that patients who completed online treatments revealed decreased relapse rates and were less dependent on chronic depressive treatments, enjoying improved and cheaper access to health services.

All points towards the usefulness of data obtained by text messaging systems, which helps doctors and therapists, define the treatment of their patients. This method can also involve family and caregivers and help prevent relapses due to the abandonment of tasks or lack of face-to-face session attendance. But the results highlight certain limitations: the research works are based on small samples, they are pre-feasibility studies and do not allow for general conclusions to be drawn.

Social inclusion and digital inclusion

We must be aware that digital inclusion does not presuppose social inclusion [2]. Social exclusion regarding the use that people make of ICTs is a complex matter, which calls for a deeper understanding of the use that excluded or potentially excluded people make of ICTs in key aspects surrounding the exercise of citizenship; this includes their autonomy, work, social integration and production of knowledge. Social ghettos are also defined by not being clearly connected to important information circuits; that is, those that promote individual and / or collective progress through knowledge. Travieso and Planella [2] and Casacuberta [3] argue that digital literacy must educate autonomous, reflexive, critical and responsible people who are capable transforming society; therefore, we need to consider that socially marginalized individuals or groups at risk of vulnerability must be digitally literate in order to counteract their own social exclusion.

Garcés [33] states that social workers must encourage the individual to participate in the social life and use communication technologies to avoid exclusion. Arriazu and Fernández [34] studied the use of the Internet in the social work field, identifying emerging participation and socio-health intervention trends; they identified the development of computer applications intended as Internet based social services; including: "SOS Ayuda al maltrato" or the "Teléfono de la Esperanza" (SOS Help for Abuse and The Number of Hope). Both authors reflect on the disadvantages and advantages of online social work, identifying two types of communication: synchronous - via chat and videoconference - and asynchronous - via social networks, such as Face book; they list examples of debate and communication applications for social work professionals, including mailing lists, specialized websites for social workers, such as the National Association of Social Work, the Discussion Forum of the New Social Working Online, or Micro blogging via Face book.

In general, in the papers we analysed, authors identified as the main setbacks: "the lack of information skills observed in vulnerable people, the difficulties to create group dynamics on the Internet and to evaluate results; as well as confidentiality issues and the lack of an

"Online Social Work Code" [7,10]. But Arriazu and Fernández [34] also reflect on the great potential of online social work interventions where drawbacks in the communicative process are registered; that is, where people or groups have poor verbal communication skills; for socio-therapeutic treatment of people with mobility problems and disorders, such as the handicapped; for socio-therapeutic treatment of people with spatial and geo-temporal mobility issues, such as mothers with small children, or people in situations of risk or deprivation of liberty.

The studies carried out in the United States by Lopez are of great interest [11,35]; this author focused on the use of the Internet in psychosocial therapies, based on specific cases. In a first study, 15 therapists were offered a specially designed network for the development of behavioural therapy with clients; they could access video, audio, texts and specific recordings; later, the therapists answered a questionnaire concerning this six-month experiment. This research concluded that therapists were already using video, teleconferencing, instant messaging and e-mail with their patients, but came to perceive that Internet based communications facilitated treatment involving vulnerable individuals, as long as they were prepared to use ICTs; when this was not the case, therapists believed in face-to-face contact only.

López [35] notes that when people know that they can connect with other people through text messages, images, video or voice calls they feel connected, and this has a positive impact in their health. He also notes that e-mail messages have a smaller impact than video or chat, but all of them relieve anxiety. And Horvarth et al. [36], in their study with HIV-infected patients, used text messages to promote adherence to antiretroviral treatments, observing greater effectiveness and less abandonment; and noted that mobile text messaging reached large populations, while pointing out privacy related limitations.

Where the value and potential of online psychosocial therapies in developing countries in concerned, experiments involving mobile phones and text messages, carried out in Nigeria by UNICEF, with the purpose of preventing the spread of the Ebola virus, are very interesting; UNICEF is able to use mobile phone access as a cost-effective and fast communication tool in poor and isolated communities [37,38] carried out a research in Kenya involving mobile text messaging in antiretroviral therapy cases, with a group of 538 people infected with HIV; they found that 168 of the 263 patients who received text message therapy responded significantly better when compared to 132 of the 265 patients who received face-to-face care. In Guatemala, Martínez Fernández et al. [39] studied the development of an online health system via text messages and mobile phones in indigenous rural areas, observing a significant reduction in maternal and infant mortality among 6783 pregnant women.

On the other hand, Bryant L. et al. [40] argue that online social work in rural and remote Australian communities cannot become a "McDonadlization of Social Services", dehumanizing direct relationships and standardizing treatments and therapies, while presenting ethical and legal issues that hinder the development of a mutual aid relationship; but at the same time they speak positively of the results obtained with videoconference care, sometimes surpassing face to face care; they cite, for example, the treatment of bulimia by videoconference in remote areas. In their paper, they advocate a social work that combines online therapy with face-to-face visits, i.e., online and face-to-face hybrid health systems between rural and urban areas.

Lopez [35] introduces a clinical psychology concept that could be valid for social work; we are referring to the so-called "Therapeutic Alliance" or "Labour Alliance" that alludes to a working relationship between the patient and the therapist; here, the qualities of the therapist weight in the relationship: empathy, positive communication, emotional validation, trust and authenticity; it is also a mutual agreement on how the client and therapist can work together: The social worker must undertake this "alliance", embracing the social aspect until it becomes a "Socio-Therapeutic Alliance". We agree with Soto et al and Lopez [41,35] when they state that Internet based therapy is poorly studied, but in the case of social work we must add that it is underdeveloped. Social workers must rely on the fact that, in clinical psychology, face-to-face "Therapeutic Alliance" is not significantly different from online therapy [41].

On the other hand, Lopez and Rearmer [11,30] believe that communication technologies are essential for the social work practice but there are well-founded concerns about their ethical use. López [11] points out that the United States National Association Social Workers (NASW), which counts 150,000 members, in 2011, asked friends and followers via Face book to share their thoughts on online social work practices and their legal and ethical concerns; and what technology would best promote online social work. The benefits of providing services to remote and marginalized populations were generally acknowledged but, nonetheless, there were concerns about ethical practices, codes, and confidentiality; concerns for customers who have no money to use technology and concerns about poor guidance on how to proceed.

Lopez [11] criticize traditional codes of conduct for the social work practice, branding them as old and obsolete, but note that there are no specific laws in the United States for online social work, and each state is responsible for its own codes and laws. López [11] argues that the provision of online therapy services were first developed in California with the Telemedicine Act of 1996; despite this, in 2003, in the United States, psychologists, social workers and family therapists started to provide tele-health services via technology and e-health centres; yet, at present, all social workers using information and communication technologies must follow the 2008 NASW code of conduct.

On the other hand, it is important to mention the study of different social networks of help from the point of view of psychosocial therapies. Federico [42] argues that the social worker must further investigate the complementary networks of people being the object of care or therapy; collecting information about the relationships with family, neighbourhood, work, etc., in order to create social intervention resources that can be used on a community, and not only on an individual, level. The author argues that Social Work as an academic field should teach professionals to differentiate between useful and less useful networks, in order to manage them according to rehabilitation, prevention or social diagnosis.

Rearmer [30] states that, in 2000, clinical social workers in the United States were already offering online chat counselling to patients diagnosed with depression, bipolar disorders, anxiety, or others; and considers online virtual therapy an instrument in the hands of the clinical social worker; which allows him to record positive/negative

messages from the patient. He also evaluates the interest and utility of social networks, such as Face book, to prevent relapses, postpartum depression, mood disorders, alcoholism, etc. But all of this raises ethical challenges in terms of privacy and confidentiality.

Following a more social and ethnographic line, we highlight the ethnographic approach of Rubia [43] on the social impacts of mobile phones among women living in poverty, in the Brazilian city of Curitiba. In a field work carried out over a period of 8 weeks, 41 women residing in a vulnerable area of Curitiba known as "Clarice Garden" were interviewed; women with a low educational achievement and income profiles, mostly young people under 39 years of age, mothers who had their first child during adolescence, religious women, working low-skilled jobs such as domestic workers or collectors of recyclable material. Rubia [43] notes that Brazil already exceeds the mobile phone per capita rate and that its use is widespread, but alerts to the high cost of the services; the study concludes that women express concerns about the costs of mobile telephone rates, the relevance of mobile phones in terms of children care, family ties and the general well-being of the family, the role of mobile phones in professional occupations and in situations of illness. Internet access, for them and for the education of their children, is viewed as a positive aspect.

Discussion and Conclusions

We call for the need to develop a specialized research line on mobile phones, text messages or electronic mail and its utilities for psychosocial therapies. We need more studies targeting different social, ethnic and racial groups, in rural, urban, developed, rich, poor, etc., spaces, from different backgrounds, such as vulnerable people with mental health issues, long-term unemployed men and women, abused women, victims of violence, unstructured families, people with addictions, and so on.

Our systematic paper review allowed us to propose directions for future research projects, for which we formulate the following hypotheses:

- Mobile phones and their intelligent use reduce social vulnerability.
- Vulnerable people can be the object of psychosocial therapies via mobile phones, as tools that promote prevention, inclusion and social rehabilitation.
- Mobile phones are innovative instruments for psychosocial therapies in the face of social marginalization and mental health pathologies.
- Mobile phones allow access to psychosocial therapies to isolated, rural or marginalized communities.

Regarding the design of psychosocial therapies for vulnerable people, it is important to develop interdisciplinary research works that:

- Identify and categorize best and worst practices in communication and information systems via mobile phones for different types of vulnerable people.
- Facilitate the transfer of results to managers of public social inclusion and health policies and the private business sector, involving psychosocial therapy methodologies via mobile phones.
- Design, apply and analyse the impacts of an experimental methodology against exclusion and
- Compare the legal framework of psychosocial therapy in different countries and their professional practice.

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