TELEPSYCHIATRY IN ITALY, FROM PREMISES TO EXPERIENCES

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Summary
This paper takes into consideration the literature concerning Telepsychiatry, in general, starting from the WHO statement on the advantages and opportunities that the computerization has created in psychiatric work in relation to the accessibility of care, the better use of resources, the sharing of information and to communication between operators.
The complexity of the relationship between the activities of care, rehabilitation, training organization of services in psychiatry and the way of computerization and the Internet are highlighted by the profound interactions between these elements.
A specific reflection is dedicated to the problems and opportunities that the Telepsychiatry can find and create in Italy starting from the specific situation of the Departments of mental health.
The protocol of a specific experience carried out at the Treviso and Turin services was presented, involving approximately 370 patients in the identification and treatment of depression, allowing effective communication between the various actors and an application of e-therapy tools. The aim of this project was to verify the sustainability of Telepsychiatric routes in the current DSM system.

Key words: telepsychiatry, internet and mental health, depression, c-CBT, i-CBT, videoconference, collaborative care

Introduction

The advent of Internet has radically transformed our ways of communicating and living. The World Wide Web and its evolutions are continuously offering new opportunities and determining new needs to the individuals' lives.
The Information and Communication Technologies (ICT) solutions applied to health services have brought enormous changes in the field of medicine: as in the case of "Telemedicine" a concept which contains an activities-set, defined by World Health Organisation (WHO) as following "The delivery of health care services, where distance is a critical factor, by all health care professionals using information and communication technologies for the exchange of valid information for diagnosis, treatment and prevention of disease" [1].
In mental health field, the term "Telepsychiatry" is in use.
In order to evaluate the current impact, it suffices to think how the introduction of ICT solutions and tools have radically changed the accessibility to services, allowing patients to access them in every hour of the day and in every day of the week. As an example, the introduction itself of e-mails has helped to get rid of phone availability, allowing practitioners and patients to communicate efficaciously, even without being present

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simultaneously. By means of emails and interactive web sites, the patients can now get appointments, ask for prescriptions, and contact the Service at any time [2].

Meanwhile, additional possibilities are growing exponentially.

A recent statement of the World Psychiatric Association (WPA) [3], integrally about *e-mental health*, represents a significant sign of times; this document, even before the intent to create new protocols, summarizes and unifies several scientific contributes and experiences, raising the issue of what the dimensions and operative margins of Psychiatry and Mental Health Services can represent in the age of widespread computerisation of information.

Starting from some WPA statement's prompts, we would like to seize the opportunity of examining the main topics regarding *e-health* in Psychiatry. We will take a specific experience as an example, the first structured and with significant numbers in our country, to close, then, with some reflections on *e-psychiatry*'s perspectives in Italy.

Elias Aboujaoude et al. [4] have published a status update in 2015 in the scientific journal World Psychiatry, following other works about the state of art [5 6]. Several works, included the aforementioned one, have recently tried to define appearances and characteristics of telepsychiatry in order to review different activities.

Many are, indeed, the experiences which have been collected, old ones included [7 8], but the organization in a system of knowledge is still provisory and scientific evidences are not always clear. One of the main reasons is that telepsychiatry is a mirror of the evolution nature of ICT tools and of web itself.

Aboujaoude et al. [4] stated that, within 2020, over half of mental health services will be delivered electronically. In Italy, this prevision does not seem take for granted, especially in the Psychiatry field, nevertheless the Italian Mental Health Departments should not reflect on this topic.

Telepsychiatry, as WPA[3] stated, is an "umbrella" which actually comprehends extremely different activities.

As a matter of fact, that term includes services and interventions which belong to different fields, for example:

- Clinical-administrative aspects, i.e. electronic medical records, activity recording and information sharing between services;
- Epidemiological aspects, i.e. creation of information flows;
- The use of videoconference for clinical use or consultation;
- Clinical activities, i.e. rehabilitative interventions and online therapies, like online psychotherapy and cCBT especially;
- Assessment and diagnosis paths, "self-evaluations" and self-help, including the so-called *mobile Psychiatry*, namely smartphone apps dealing with mental health;
- Training of professionals;
- Increased spreading of information and discussions concerning Psychiatry, made available by web sites and social media.

Myers e Turvey [5] underline the main particular cases able to promote the use of telepsychiatry:

- Lack of specialists: it is possible to maximize the availability of human resources by rationalizing the interventions, abolishing transfers and improving accessibility;
- Adequacy of services at a distance, made possible by the improvement of videoconference technologies;
- Obtaining research grants/funding for the sustainability of implementation process;
- That efficacy of interventions is, by now, widely acquired.

Whichever classifications or analysis of the promoting and hindering factors for telepsychiatry, risk to be reductive in view of the organisation heterogeneity and the quick evolving of tools and their applications.

It is important to keep in mind that the spreading of web (WWW) and its evolution have changed the accessibility and the use of information itself, leading to important interactivities. This has diluted the boundaries between the knowledge, the information based on scientific research, the interpretations and the opinion aspects, which are self-referential for nature. Hermeneutic-literal approaches to the mind issues are, in such manner, mixing with debatable visions of the problems and modus operandi of Psychiatry.

Forums, blogs and social media are resonant with opinions and materials which are not necessarily usable. Twitter, Facebook and other social websites not only spread news, information and opinions, but create instead the premises for opinion groups, without compulsorily bringing guarantees of scientific approaches to mental health issues.

If improving the accessibility to information and the possibility to express personal evaluations is, of course, an essential element of empowerment, the

difficulty of discerning different information creates the premise of a both problematic and dangerous self-referentiality, in which nobody can prove nothing, whilst affirming to own the monopoly of truth.
As a proof, online publications can be both the result of controls and meticulous evaluations, both the expression of personal opinions or non-verified analysis. This is not itself a negative fact, but the lack of guidelines and validation parameters of the enormous amount of information available online make it potentially risky.
The relationship between Psychiatry and web [7] has created a widespread interest in our country, which evolved in the definition of some online communities; the interest, then, moved to social media, which have been promoting information and in-depth analysis, resulting in a widespread web attention around Psychiatry and its topic. But, beyond that, there have not been recorded significant experiences and it is impossible to say whether there are validated experiences and evolutions in such a way to consolidate or characterize a widespread usage of telepsychiatry in Italy.
As opposed to what happens in other countries [4 5], despite the existence of works which testify an interest even in Italy on telepsychiatry interventions use and efficacy [9], the clinical experiences concerning electronic tools are still limited, with specific reference to videoconference consultations or computerized forms of psychotherapy like cCBT.
The Italian epidemiologic experience is significant through national and regional information systems (e.g. 2015 Ministry of Health report) [10] and the computerization of clinical records and of the activities, traced by over a decade [11 12].
Equally, there are some experiences regarding the use of rehabilitation software, especially cognitive one [13].

Advantages and clinical problems, the Themes

Several studies on an international level have shown the efficacy of telepsychiatry interventions [5 6 14-17], however it urges to establish the most adequate indications depending on the patient, the conditions and the tools. A big amount of treatments such as cCBT or *e-CBT* (computer-based Cognitive Behavioural Therapy) are available, sometimes even online.
In this regard, some points of the WPA statement meet with the Mental Health Action Plan WHO 2013-2020 [18].

Improved efficiency - for many people, online information, self-management and e-therapy programmes may be sufficient to alleviate symptoms, at a minimal cost, and without clinical support. In some countries, tele-mental health and online services can provide more flexible access to person-to-person contact with a mental health professional, if this is needed. E-MH technology provides for quicker identification of more serious conditions, and/or access to emergency support, enabling clinicians to focus on people who are most in need.

Help promoting mental health and preventing mental illness - by enabling quick access to online information and self-management programmes, e-MH options can encourage people to take control of their own mental health, and seek help if they need to.

However, mental health services in Italy are not ready yet to deliver telepsychiatry services, neither at an organizational point of view, neither at a cultural one.
Besides, despite the well-known advantages in the use of videoconference for team reunions or service comparisons, there are no data which may suggest a wider use of this modality, even though the mental health services are dislocated all over the territory.
The residential appearance and population density of our country is not mostly comparable to those territories in which telepsychiatry was necessary to cover significant distances. We are aware of the evident influence on the use of these services in relation to their physical collocation[19] and of the difficulties in delivering those services for whom it is not near to the distribution points. Therefore, it would be limited to think that the main boost in the use of telepsychiatry would depend on the appearances of our territory, because this fits only to specific areas.
In rural or mountain territories, indeed, the possibility of usage of videoconference consultations or other computerized services may be relevant, provided that the internet coverage is adequate. Some areas are inadequately served by telecommunications and the clinical evaluation might be influenced by technical issues, variations in the internet coverage and even by the context in which the patient is treated [14 16].
Furthermore, it should be taken into account that the availability of assessment, even self-administered, and mental health information may represent both an advantage to help people taking decisions, and both a risk, as this can lead to an increased demand which does not necessarily coincide with effective needs

and which does not find answer in the resources offered by services.
With regard to the improvement of the care continuity, the WPA statement underlines how e-MH technologies can facilitate the collaboration between primary and secondary healthcare and other agencies [3].
Stigma towards mental health disorders is, for psychiatric patients, an essential component in choosing treatment; the General Practitioners are, as well, the ordinary representatives to the general population, with whom patients develop trust and who can improve compliance. Therefore, several patients, and especially those with common mental disorders, firstly address in most cases to their GP.
The collaborative care model appears to improve clinical outcomes [20-22], indeed, leading GPs to a better management of their patients.
A non-clarified point is the importance in which telepsychiatry tools can have in promoting the sharing of information (by means of sharing electronic records and medical records) between mental health services and primary care, as well as the possibility to use tools like videoconference to facilitate contacts and takeovers, promoting the integration of clinical answers from different points of the system, namely from primary one (GPs, Districts) to more specialist one.
This does not seem determining in our country: nowadays there is, indeed, a deep heterogeneity concerning the sharing of information between mental health services, other territorial services and primary care. The possibilities offered by computerized medical records are underused [23].
However, it should be stressed that telepsychiatry treatment is not effective on all subjects [22]; and the introduction of ICT tools in medical practice brings legal implications: the practice of telepsychiatry has to be safe and reliable, since personal and sanitary information are transmitted through the network, where other can potentially get hold of them. Therefore, telecommunications means must be protected by software or systems (i.e. antivirus, password, firewall, cryptography systems, norms and adequate deontological codes), in order to keep data and communications safe and not well-accessible.
Besides, using relatively recent technologies reflects on informatics skills: both patients and physicians must be able to use electronic tools adequately.
Some other points from the WPA statement are:

- More equal access to care - many healthcare barriers affecting low-income people can be sometimes overcome if the opportunity to access low cost treatments and in places of their choice is given, even if the limited access to technology can represent a barrier itself. Fear of stigma is an obstacle to people seeking for help. E-mental health support can be on an anonymous base to ease this issue;
- Increasing outpatient effort - some smartphone apps can remind appointments, record and monitor mental health conditions, unhealthy dependent behaviours and medical communications between sessions.

The existence of a universalistic regional sanitary service in our country implicates the problem of Essential Levels of Assistance (LEA), reflecting in how much telepsychiatry interventions can be included, not to mention the limited offer of private telepsychiatry services.
Regional Sanitary Services proved to be very reluctant in financing innovative politics, even those saving money, and are not assuming a priority criterion in mental health investments [10]. In many cases, in sanitary and resources planning the “historical” criterion is used to the detriment of sustaining innovations or changing.
Lastly, the patient free choice issue poses interesting problems to the organizational base principles of our Mental Health Departments: how to reconcile it with the matter of “residence” that many out patient facilities use as unavoidable priority to deliver his/her own services?
Furthermore, “the anonymity” is a principle that conflicts with what is considered the model of takeover and upon which community psychiatry services work: can someone be taken in load in an “anonymous” way? How could the therapeutic continuity be preserved in a totally self-managed situation?

Elements of development and experiences in our country

It is not easy to find studies on a real applicability and sustainability of Telepsychiatry in a public sanitary context, especially in the Italian one.
Therefore, we believe it is important to share the experience of the European project MASTERMIND (MAnagement of mental health diSorders Through advancEd technology and seRvices – telehealth for the MIND)[24], in which Treviso and Torino have been two Italian pilot centres.
The MasterMind project aimed to implement and upscale cCBT and ccVC in routine practice and targeted to reach over 5,230 patients and 118 professionals

in routine care in 15 different pilot sites of 11 different European regions. The effectiveness of these pilot experiences has been evaluated in order to identify the factors which promote or inhibit implementation and up scaling of cCBT and ccVC for routine treatment of depression. The study ran for a total of 36 months.

The MasterMind study design, was a multilevel process with pre-test-post-test mixed-methods evaluation. The evaluation assessed the viewpoints of three levels of involved stakeholders in the implementation projects: 1) patients, 2) healthcare professionals and 3) mental healthcare organisations. The applied mixed-methods approach may provide a good understanding of what (quantitative results) the pilot sites have achieved, and how (qualitative results) these outcomes occurred.

The evaluation was structured according to the Model for Assessment of Telemedicine (MAST) in which seven highly interrelated domains have been assessed: 1) client and care profiles, 2) safety of patients, 3) clinical changes in depressive symptoms, 4) implementation related costs, 5) patient and professional perspectives towards cCBT and ccVC, 6) organisational aspects 7) social, legal and ethical issues related to employing cCBT and ccVC in routine practice.

Outcomes included:

- reach of the interventions;
- perceived acceptability by patients and healthcare professionals of cCBT and ccVC, tools and perceived cCBT and ccVC appropriateness in relation to patients' and healthcare needs.

Additionally, were considered as well:

- implementation costs; and
- interventions sustainability in routine practice by the organisation.

The resulting overall evaluation aimed to provide valuable insight into the factors which influence the implementation and up-scaling of cCBT and ccVC in a variety of political, social, economic and clinical contexts. It aimed to provide insight into the perspectives of involved stakeholders, and resulted in concrete recommendations for implementing and up-scaling cCBT and ccVC for depression in different mental healthcare contexts.

Computerised cognitive behavioural therapy for depression

In general, current interventions (i.e. treatments) for depression are designed to relieve symptoms, restore damaged core functions and prevent relapse. The most common evidence based interventions are psychotherapy and pharmacotherapy. MasterMind focuses on psychotherapy which can be in either a face-to-face format, contained in book format (bibliotherapy), or electronic format (internet-based treatment) with some kind of personal support provided by mental health professionals trained on cCBT principles.

Cognitive Behavioural Therapy (CBT) is one of the most studied psychotherapies, and has been found to be an effective treatment for depressive symptoms. The basic assumption of CBT is that depression is perpetuated by maladaptive thoughts that could be modified into adaptive thoughts and thus lead to changes in behaviour, which ultimately results in less depressive symptoms.

CBT consists of highly structured therapeutic sessions focusing on cognitive input and behavioural change. Therefore, CBT is ideally suited for information technology based administration. For example, the instructions to reach therapy goals can be easily transmitted by technological means including homework assignments for the patient.

Several Randomized Controlled Trials (RCT) and meta-analyses have examined the effectiveness of Internet and other computerised CBT programmes for the reduction of depressive symptoms. The results so far have shown that Internet based CBT is effective in treating depressive complaints [25-30] and even as effective as pharmacological treatments for certain populations [31 32]. Pharmacological treatment combined with psychotherapy is suggested to yield even more effect in reducing the clinical burden of depression [33]. Also, studies on cost-effectiveness showed that cCBT in depressed patients is a promising solution [34-36]. The therapist can treat more patients at the same time because certain therapeutic elements are automated,. Therefore, cCBT appears to be a promising approach in alleviating the burden of depression.

Collaborative care for depression facilitated by video conferencing

Collaborative care is associated with significant outcome improvement, and represents an useful addition to clinical pathways for adult patients with depression and anxiety [37]. MasterMind, collaborative care consists of: a multi-professional approach to patient care, a structured management plan, scheduled pa-

tient follow-ups, and an enhanced inter-professional communication [38].
Use of videoconference technologies in psychiatry has been shown to be a viable treatment option both for in and out-patient settings [39]. Besides delivering specific treatments (e.g. anger management), previous research has demonstrated that using videoconferencing-facilitated mental healthcare services is satisfactory for patients, improves health outcomes, and might be cost effective. However, there is also a need for awareness of the salient regulatory, administrative and clinical issues that may arise in the practice of modern telepsychiatry [39].
Collaborative care facilitated by videoconferencing has shown to be as or more effective than practice-based collaborative care for depressive patients [40]. Similarly, research suggests that telemedicine-based collaborative care does not increase primary care or mental health workload providers [20].
Here below, the pathway adopted in the project is described in a simplified way.

Simplified patient's path in MasterMind

GP's assessment
1. Gp's evaluation
2. Creation of the MM module, inclusion of the patient with data entry
3. Administration of PHQ9
   If less than 5: patient is not included
   If more than 5, and the patient gives consent, the enrollment form is opened.

Reporting the patient to Mental Health Center (CSM):
1. if it is urgent, a dedicated phone number is used
2. if it is not, appointment via shared calendar
3. taken note of the report and confirmation of the appointment by the psychiatrist
4. case evaluation by videoconference or telephone contact between GP and psychiatrist.

Main questions
1. Is there the need of take charge by the CSM? If not, the GP follows the patient and records the data in the computerized database
2. Is the patient known to the CSM? A shared folder is created with the GP in the computerized database
3. Is a cCBT treatment necessary?
4. Is videoconference necessary between GP and psychiatrist?
   - The patient begins the cCBT treatment when assessed as eligible and receives support
   - Contacts are made in videoconference during the patient's journey whether it is in charge by the GP or psychiatrist
   - The path is monitored with PHQ9 and BDI.

As the flow chart highlights, the diagnostic processes, the therapeutic project definition and the takeover intensity are supported by an electronic module which records and shares patient data. Furthermore, the use of videoconference between GPs and mental health operators leads not only to the definition of the intervention on the basis of different cut-offs scales, but also to share the clinical evaluation and to keep trace of the different phases of the intervention. In the Italian Units of MasterMind study 210 depressed patients in Treviso and 170 in Torino respectively have been recruited and treated. In order to evaluate the impact of telepsychiatry processes on the provision of services beyond the data analysis, some focus groups with the actors, the different stakeholders and the decision makers had taken place during the study.
The final data are under elaboration and will become the content of a future publication. Some reflections from focus groups interviews can be anticipated:
- GPs have represented one of the major obstacles in the implementation of telepsychiatry in MasterMind project, since they were used to a stand-alone work and not to a regular collaboration with hospital colleagues. It is essential to improve the GP collaboration in the treatment of psychiatric disorder;
- The use of computer technologies in medical field will increase in the future, if the informatics skills, by patients and by health professionals will improve as well;
- The MasterMind project has shown economic savings by telepsichiatry even if managing technologic improvements are needed.

Beyond the economic aspects, the positive protocol impact on professionals dealing with depression has been observed
Both GPs and psychiatrists reported satisfaction for the mutual cooperation which made depressive treatment less traumatic for the patients

Conclusions

The socio-sanitary context appears to be attentive to telemedicine innovations, whereas in the mental health field the path is not that clear. Due to resources' scarcity the system is struggling in supporting

these interventions, even if telemedicine therapies have shown a higher patient accessibility with lower costs and comparable efficacy.
Analysing the current situation we found that in Italy telepsychiatry lacks of 3 key characteristics:
First of all, it is necessary to implement a monitoring of the experiences, corresponding in rigorous and reproducible trials and in a suitable utilization of tools.
Then, a specific training of health operators is needed in order to develop their skills in the diagnostic processes, in online psychotherapies and in the promotion of self-help with telepsychiatry. The first step of the training must be the introduction of the videoconference as a way of communication with both patients and other health operators in the daily routine.
Furthermore, it would be helpful to monitor the web and to provide a quality certification to the on-line health services. More intellectual investments are necessary; we need to avoid to be crushed by useless contents coming from an uncontrolled web.
In conclusion, these 3 key success factors will enable innovations and reduce the gap in telepsychiatry between Italy and the best in class practice around the world. We should consider telepsychiatry as an innovative therapeutic pathway to reach an higher number of patients and not only as a way to cut sanitary costs.

Take home messages for psychiatric care

- Computerization and the Internet are constantly evolving and create opportunities and critical issues for psychiatry work
- The term telepsychiatry collects a complex set of activities ranging from care, to rehabilitation, to information management and training
- In Italy, experiences must be consolidated, supported by scientific evidence, on the sustainability and benefits of routine activities of telepsychiatry

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