

and localized inflammation, compromised endothelial barriers, IgG sensitivities to food antigens, exposure to viral and parasitic pathogens, and autoimmunity. The gut in a homeostatic state equates with a functional digestive system, cellular barrier stability and properly regulated recognition of self and non-self antigens, as managed by a complex community of resident microbes. Our studies address how environmental and genetic factors relate to GI dysfunction, impact the resident gut microbiota and result in dysregulation of processes in the host central nervous system. We hypothesize that disturbance to GI equilibria activates peripheral immune factors including complement pathway components that function in synaptic pruning. We evaluate these issues with peripheral immune biomarkers and deep sequencing in a number of case-control psychiatric cohorts that include antipsychotic-naïve individuals. Although certain medications and lifestyle factors might affect GI functioning, our findings support a GI pathology inherent to the schizophrenia disease process and a role for the gut-brain axis in complex brain disorders. The identification of those individuals affected by GI-related risk factors will enable appropriate and individualized treatments to be designed and tested for efficacy of both gut and brain-related symptoms.

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The role of the gut microbiota in mood and behaviour. Whether psychobiotics can become an alternative in therapy in psychiatry?

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Introduction Novel research concepts based on therapies aiming to modulate intestinal microbiota are emerging. The evidence is mounting that gut-brain axis plays an important role in the development of mood and depressive disorders [1]. The similarities between blood brain barrier (BBB) and gut vascular barrier (GVB) and their role in chronic diseases have been recently unraveled [2]. Especially convincing data come from animal models, where administration of probiotics and antibiotics in germ and pathogen free mice showed beneficial role in the regulation of behavior, cognition, pain, anxiety and mood.

Aims and results Based on available data as well as on studies looking at the effect of multispecies probiotics (Ecologic® Barrier containing *B.bifidum*W23, *B.lactis*W52, *L.acidophilus*W37, *L.brevis*W63, *L.casei*W56, *L.salivarius*W24, *L.lactis*W19, *L.lactis*W58) on cognitive reactivity to sad mood in healthy volunteers [3] we designed the human trial aiming to compare microbiome alterations and response to therapy in patients with depression and schizophrenia. Moreover, in vitro and in vivo data support the notion that multispecies probiotics are capable of improving gut barrier function [4] and may alleviate disorders affecting mood and depressive-like behavior. We postulate that therapies modulating the microbiome-gut-brain axis warrant further investigations.

Conclusion Multispecies probiotics have the potential to influence the gut-brain axis and alleviate mental disorders. Ongoing clinical study in patients with depression and schizophrenia will help to further unravel the role of gut-brain axis in the treatment of patients with psychiatric disturbances.

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E-mental Health: Updates on recent achievements and pitfalls

S27

E-Mental Health and models of care: The evidence base and feasibility of picking one vs. another?

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The patient-centered care features quality, affordable, and timely care in a variety of settings – technology is a key part of that – particularly among younger generations and child and adolescent patients. The consumer movement related to new technologies is nearly passing clinicians by, as new ways of communicating with others (text, email, Twitter, Facebook) revolutionizes how we experience life and access healthcare. This paper explores a continuum with healthy, innovative behavior on one end (e.g., social media) and pathological Internet use on the other end—and the range of self-help and e-mental healthcare options being used. Specifically, it focuses on how social media adds to, yet may complicate healthcare delivery, such that clinicians may need to adjust our approach to maintain therapeutic relationships, interpersonal/clinical boundaries, and privacy/confidentiality. We suggest planning ahead to discuss expectations about online communication between doctors and patients as part of the informed consent process, offer other do's and don'ts for patients and clinicians, and review applicable guidelines. More research is needed on consumer and patient use of technology related to healthcare, as is an approach to basic and advanced measurement of outcomes.

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S28

After all, is E-Mental Health capable of making a paradigm shift?

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Only a very small percentage of adolescents and young adults with mental challenges is able to access specialized care. Access is

limited due to a lack of capacity but also internal hurdles and stigma especially among young males. The web creates a new environment for them, which is defining a new culture of communication and interaction. The majority is using smart phones to access the Internet and make that their main communication device.

Walkalong is a web-based platform, which aims to provide a range of opportunities and tools for youth with especially mood challenges. These tools include screening and assessment, online resources and all kind of orientation and interaction for informed decision-making.

We are working on that to develop a framework for better online-based mental health care including useful tools beyond crisis based on the principles of empowerment and strength based approaches.

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S29

Treatment of schizophrenia using tablet and smartphone based applications (Polish Study)

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Relapses, deterioration of cognitive functioning, negative symptoms, neuroleptic resistance are the examples of many consequences of noncompliance in schizophrenia. In order to improve the compliance, schizophrenic patients treated in an outpatient department in a traditional way have been given an additional possibility of contacting their doctors with the use of a special application on a portable electronic device. Other functions of this application are possibilities of PANSS, Calgary and CGI measurements and cognitive trainings for the patients. This type of a remote contact with patients can be an effective tool in the work in an outpatient setting. The compliance was assessed using a telepsychiatric system, sending reminders: 1 hour before the planned dose to remind them that drug intake is approaching, and at the moment of intake to check if they took the drug. In general the compliance in the group of schizophrenic patients in remission is very low, however the telemedicine system improves the compliance in this group of patients, in which the compliance is the worst.

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E-psychiatry: From acceptability to effectiveness!

S30

A study on the effectiveness of E-Mental Health in the treatment of psychosis: Looking to recovery

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Introduction An integrated program (Institutional Psychiatric Open Light Treatment) for psychosis and personality disorder was enriched with audiovisual functions provided through a dedicated website.

The aim of the present study was to observe how and if these added functions support the patients in their daily living, influencing the quality of the recovery process.

Recent studies highlighted how telemental health services are effective to provide access, improve basic outcome, facilitate empowerment of patients and be well-accepted (Hilty, 2013; Hailley, 2008) and how integrated community-based treatment, such as Community-Based Psychodynamic Treatment Program (Chiesa and Fonagy, 2009) or Assertive Community Treatment (Veldhuizen and Bahler, 2013) are effective in SMI.

Telemental health services may become factors improving real-life functioning, integrating community-based treatment for psychosis and bettering social cognition, functional capacity, resilience, internalized stigma and engagement with mental health services, so positively affecting outcomes of psychosis treatment.

Methods All patients admitted (May 2010–April 2015) were included. Aged between 18 and 65, with schizophrenia, psychosis, schizoaffective disorder, bipolar disorder, personality disorder.

Some troubles with the website use (Voice2Voice) led to a second version, more friendly and simple to use (app2gether).

App2gether provided several functions: audio/video conference rooms for patients or family (synchronous virtual space to interact, at scheduled time, with a psychologist, a psychiatrist or a peer support worker, in free groups); chat (asynchronous virtual space for any question or information).

We considered primary outcomes proposed by Cochrane Collaboration (Shek, 2010): hospital admissions, days of hospitalization, day-hospital admissions, day-program attendance (e.g. weekly), treatment compliance (voluntary discharge or missing scheduled date).

We considered, as secondary outcomes, variables closely associated with real-life functioning (Galderisi, 2015): global functioning (Italian translation of Global Assessment of Functioning Scale), quality of life (Short Form 36 item), social relationships (Personal and Social Performance), internalized stigma (Internalized Stigma Mental Illness Inventory), empowerment (Empowerment Scale).

Patients were divided into four cohorts:

- 1-using “app2gether” functions in the follow-up, attending day treatment program ($n = 35$);
- 2-attending day treatment program ($n = 52$);
- 3-attending transitional day-hospital program ($n = 171$);
- 4-not included in the IPOLT-program ($n = 188$).

Patients were included in the first group only based on their basic computer skills and fast Internet availability.

Results At first, we compared (2) and (3) with (4), as control group. For each patient, we considered an identical observation period before and after day-hospital admission (ANOVA, $P < 0.05$). We found a significant improvement in primary outcomes and global functioning, but not in other secondary outcomes, for the groups (2) and (3) compared with (4).

Over 6-months observation, patients using “app2gether” functions in the follow-up showed:

- a significantly decrease in hospital admissions and hospitalization length, compared to non-IPOLT-program group;
- a reduction in day-hospital admissions and day-hospital attendance, compared to (2) and (3) groups;
- a notable effect on secondary outcomes, compared to all other groups.

Conclusion A dedicated website in the IPOLT-program supports patients in their living's place, does not interfere with daily activities, decreases social costs, encourages community integration and reduces stigma.

Synchronous telepsychiatry allow a professionally modulated intervention in “here and now”; asynchronous contacts with specialists combine professional intervention with chances of

